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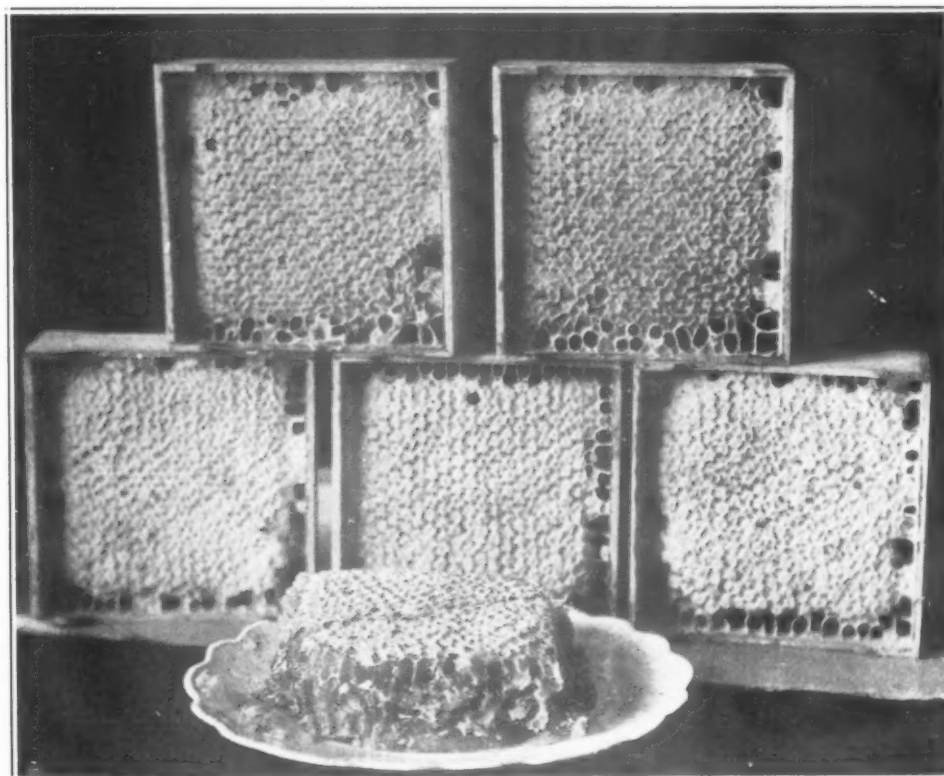
JUL 31 1924

UNIVERSITY OF MINNESOTA
Department of Agriculture

AMERICAN BEE JOURNAL

AUGUST

1924



COMB HONEY AS IT SHOULD BE. "IT LOOKS GOOD ENOUGH TO EAT!"

HONEY PRODUCTION IN IDAHO—Don B. Whelan
DEVELOPING MARKET—The Canvass—C. L. Swanson

PACKING SECTION HONEY—J. E. Crane
A COLLAPSIBLE HONEY HOUSE—C. S. Engle

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160-lb. kegs	1.20 each

For packing extracted honey we recommend our 160-pound keg. We prefer to purchase
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GLASS JARS WITH GOLD LACQUERED, WAX-LINED SCREW CAPS

8-oz. honey capacity, 3 doz. per carton	\$1.35 per carton
16-oz. honey capacity, 2 doz. per carton	\$1.20 per carton
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HOFFMAN & HAUCK, Inc.

OZONE PARK, N. Y.

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Above packed in cartons which are dust proof, light and easy to handle, keeping your cans and pails clean until you are ready to use them.	
5-lb. pails, per case of 12	\$1.10
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Above packed in wooden reshipping cases.

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4¼ x 4¼—1½ Plain No. 2 per 1,000	8.75

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(With metal covers)
Modified Dant Hives.
Extracted Honey Supers.
Comb Honey Supers.
Sections.
Diamond Foundation.
Beekeepers' Tools, etc.



The Diamond Match Co.'s Factories and Yards at Chico, Calif., cover 220 acres.

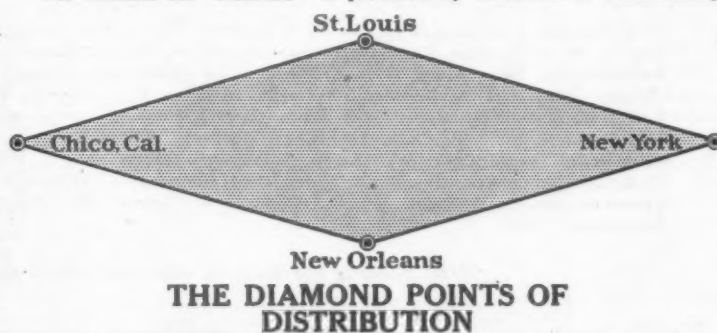
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Sections.
Diamond Foundation.
Beekeepers' Tools, etc.

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Write the Diamond Match Co., Apiary Dept., Chico, Calif., for free catalog. Send all orders and inquiries to Chico, Calif. Shipment will be made from nearest distributing point named above.

FIFTY YEARS FOR PROGRESS IN BEEKEEPING

Here are the Winners in the \$275.⁰⁰ Honey Marketing Contest



First Prize—\$100.

E. A. Meineke,
Chicago, Ill.

Second Prize—\$75

S. B. Fracker,
Madison, Wis.

Third Prize—\$50

John Auckland,
Fairfield, Iowa."Eat More Bread and
Honey"

THESE 28 beekeepers, submitted ideas on honey marketing, awarded prizes by the judges—E. T. Meredith, Ezra Warner and Carroll Dean Murphy.

The Judges spent many hours examining the numbered entries and did not know the identity of the winners until judgment had been passed. Great credit is due dozens of beekeepers who showed constructive interest in submitting entries. Unfortunately prizes could not be given all.

Hundreds of letters and entries showed need of further constructive thought if honey is ever to be sold successfully as a national food. Many missed the prize winning idea that regardless of the plan a foremost necessity is consumer protection as to invariable value of the contents of any honey package.

The G. B. Lewis Company thanks beekeepers everywhere for their co-operation and we pledge ourselves to further efforts along this line.

Winners of \$2 Prize Awards in the Contest

A. G. Murray, Clarendon, Virginia; H. A. Schaefer, Osseo, Wisconsin; Ivan Whiting, Plymouth, Wisconsin; W. L. Walling, Knoxville, Tennessee; H. D. Murry, Magnet, Texas; S. E. Johns, Concord, Pennsylvania; Dora Stuart, Chico, California; J. F. Weybright, Wheatland, Wyoming; J. A. MacNeill, Chicago, Illinois; G. A. Deadman, Brussels, Ont., Canada; Luther A. Fink, Carthage, North Carolina; Lester H. Bishop, Sheboygan, Wisconsin; Howard Passage, Sparta, Michigan; Henry Klees, Thompsons Lake, N. Y.; I. E. Clark, Sun River, Montana; Walter L. Clark, Jerome, Idaho; W. M. Jones, Tehuacana, Texas; Chas. W. Crogan, Winterport, Maine; H. E. Hutchison, Hotchkiss, Colorado; C. J. Slocum, Geneva, New York; Loren Pohl, Minneapolis, Minnesota; Armstrong Allen, Nashville, Tennessee; Harold D. Smith, Bangor, Maine; J. R. Carlson, West Salem, Wisconsin; Marjean Crites, Wilmington, Ohio.

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AMERICAN BEE JOURNAL

VOL. LXIV—NO. 8

HAMILTON, ILLINOIS

AUGUST 1924

HONEY PRODUCTION IN IDAHO ✓

By Don B. Whelan.

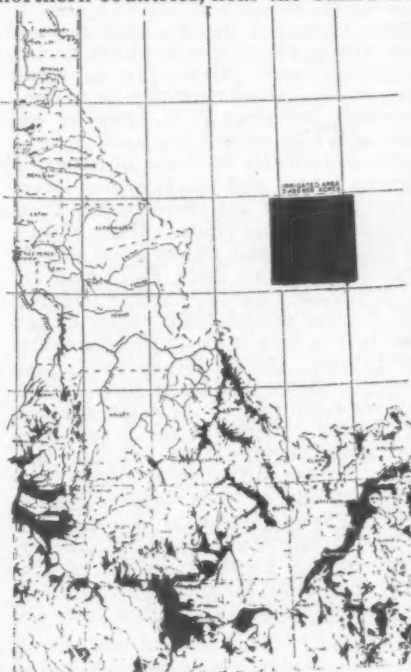
IDAHO, the Gem State, lying as it does in the inter-mountain district, is a producer of an abundance of high quality honey. Its few cities and small population cannot begin to consume all of the honey produced, consequently much of it is exported to the larger markets of the East. In the southern part of the state most of the farming is done under irrigation and it is here that a large percent of the bees are kept. Here, also, alfalfa and the clovers yield an abundance of nectar. The northern, or "panhandle," contains some of the finest bee pasture obtainable. Here are mountains, valleys, lakes, streams, forests and cut-over lands where fireweed grows profusely. In some parts of the state a beekeeper may lengthen the honeyflow by loading his colonies on a truck, when a honeyflow is nearly over, and in a few hours he has them up in a higher altitude where the bloom is just commencing.

In 1910 the census credited Idaho with having 21,903 colonies of bees, standing 33rd among the states in the number of colonies owned, at which time she ranked 44th among the states in population. In 1920 the state is listed as having 35,900 colonies of bees, ranking 30th in the total number of colonies owned, and at the same time standing 42nd in population. The beekeeping industry is developing fast and, although far from being the most important, its products are valued at over two-thirds of a million dollars annually. There are several beekeepers that have a thousand or more colonies and ship their crop by the carload. A few beekeepers ship their bees to California for the winter and bring them back in the spring.

Climate

The climate of Idaho, like that of many other states, cannot be discussed in a general manner, because of its great variety both in temperature and humidity. The state extends through seven degrees of latitude, a range only exceeded by California and Texas. Its altitude varies from 700 feet to over 12,000 feet. A large part of its area is broken by

numerous mountain ranges that traverse it in every direction and by intervening valleys that vary in width and extent. The temperature and rainfall will often vary within a few miles, depending more on altitude than on latitude. For instance, the northern countries, near the Canadian



Irrigated areas of Idaho.

border have a higher mean annual temperature than the southeastern counties a few hundred miles south, near the Utah line. The continental divide on the east and northeast protects the state to some extent from the blizzards that sweep down from Canada, across Montana and the Dakotas. At the same time the state is favored by the milder westerly winds from the Pacific.

It is claimed that the average winter temperature of a great part of Idaho is about the same as experienced in parts of Colorado, Kansas, Illinois and Indiana, while the average summer temperature compares with that prevailing in Montana, North Dakota and northern New

York. In the mountain sections the winters are long, with severe cold and heavy snowfall, the summers are short and cool. Although in the sheltered valleys summer afternoon temperatures run rather high, the nights are cool. The extensive plateaus and high valleys that form a large part of the central, southern and eastern counties of the state, have cold winters, but the summers are quite a little warmer. Here grass and cereal crops grow and mature very well. In the upper Snake River Valley, which is relatively high, the winter temperature is milder and the summers warmer. The main crops grown are wheat, barley, oats, potatoes, field peas, sugar beets, as well as garden truck crops. This section is well known for the pure Grimm Alfalfa seed that it produces. That portion of the Snake River Valley lying in the southern and southwestern part of the state enjoys a mild winter, below zero temperature rarely occurring, and the snowfall is for the most part light, remaining on the ground but a short time. The days are long and generally cloudless, with high temperatures, but the nights are invariably cool. The growing season is quite long, and here it is that much of the fruit, including apples, pears, prunes, cherries, peaches, etc., are raised. In the northern or "panhandle," part of the state the temperature resembles, on the average, that of the central states, although the range in temperature between winter and summer is not so great.

Taking the state as a whole, the rainfall might be said to vary as its temperature. The region of heaviest annual precipitation coincides roughly with the areas of lowest annual mean temperature and its driest sections lie in areas of highest annual mean temperatures. The northern part of the state has a precipitation ranging from 25 to 40 inches and there is little irrigation practiced. The mountain regions enjoy a relatively high precipitation which feeds the various streams and rivers furnishing irrigation water for the drier portions of the state. Thunder storms are mild and infrequent in the lower valleys and the loss due to lightning

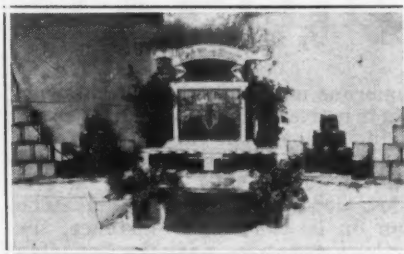
is negligible. Hail storms are limited in extent and seldom do much damage.

Honey Plants

From the foregoing discussion of the climate it can easily be seen that the approximate dates of blooming for various plants will vary somewhat even in the same county. A few hundred feet in altitude in the same vicinity may make a difference of several days. The following notes on the honey plants will not try to mention the earliest dates noted nor the lateness of the bloom reported, but will keep to conservative averages.

The pollen from the willow, poplar, maple and elm is gathered early and helps to stimulate the early brood rearing. The dandelion produces nectar and pollen which is also valuable for the young brood and occasionally furnishes a small amount of surplus that can readily be detected by its strong flavor. It is especially valuable in years when fruit bloom is of little value. Fruit bloom consists of cherry, pear, peach, plum and apple, for the most part, and helps the bees in building up for the later honey flows. It usually occurs the latter part of April and the first part of May. The black locust (*Robinia pseudo-acacia*) is not a native of Idaho but it is a very important tree for several reasons. It is not attacked by the locust borer (*Cyllene robinia*) and thrives very well in regions of little rainfall. It is found growing at an elevation of over 4,500 feet, where it appears to thrive just as well as at the lower levels. Many farmers have an acre or so of these trees, which provide shade, in a country of little shade, as well as to supply fence posts when needed. In most years the bloom is very profuse and fragrant, yielding an abundance of nectar, which usually lasts about ten days during the first part of June. Wild mustard grows quite abundantly on neglected lands and yields some nectar beginning in May and extending into July, depending on the locality. Raspberry, both the tame and wild varieties, is a good nectar plant in the northern part of the state. It is at its best from May 20 to June 1. Alfalfa is one of the main sources of Idaho's fine honey and begins blooming about the first week of June in the lower Boise, Payette and Weiser River Valleys. The bloom is intermittent until frost. The first crop yields a little nectar in places where the alfalfa weevil has not made blossoming impossible, but in the eastern part of the state this crop furnishes most of the nectar. In the southwestern region the second crop yields the greatest amount of nectar, blooming from the middle of July to the first part of August. The bloom for the third crop comes in September, but the nectar yield is small and the quality of the honey not as good as that from the earlier crops. Alfalfa has been of little importance in northern Idaho and is not depended on. The plants grow along the roadsides and ditches of a large part of

the southern portion of the state, affording a source of nectar after the hay crop has been harvested. Sweet clover, both the yellow and white varieties, grows profusely in many sections and is one of the most important nectar plants. It grows very readily in the southern half of the state wherever other crops are grown. In the eastern part of the state there are many acres of this crop grown for the seed, a condition which furnishes the beekeeper with a quantity of high quality honey. It is no uncommon thing to see sweet clover growing profusely along the roadside, irrigation ditches and fence rows, and the bees find it a rare harvest. On



Idaho honey in a first-class fair display. the whole, sweet clover yields nectar more profusely where the days are not so hot, thus elevation and temperature influence it to quite an extent. White clover produces nectar most abundantly in June, although it blooms longer and yields nectar later. Some localities get more nectar than others from this plant. Many places in southern Idaho report good yields, especially in the Twin Falls district. In Kootenai County, northern Idaho, the clovers are of little value, either due to the acid soils or the draughty conditions. On the other hand, just north of these, in Bonner County, the clovers form one of the main sources of surplus. Alsike clover is found in the same regions that produce the white clovers, although it comes into bloom about a week later. Snowberry (*Symphoricarpos racemosus*) is a very important nectar-producing plant in the northern part of the state, blooming from the first of June to the middle of July and is very at-

tractive to the bees. The spreading dogbane (*Apocynum androsaemifolium purulium*) is good some years in northern Idaho but cannot be depended upon. It blooms from June 1 to September. Fireweed or willow herb (*Epilobium angustifolium*) is quite abundant on the cut-over lands of the northern part of the state, blooming from June to September. It is of very little value except in wet, cool seasons. The syringa, Idaho's state flower, is found growing along the streams and mountain ravines in southern Idaho, while in the north it is equally important. Here it blooms from June 10th to 20th, while in the southern part of the state it has a little longer period of bloom. The asparagus yields some nectar, but more pollen, beginning about the middle of June in the northern part of the state. Hubam is grown in some parts of the state, yielding quite abundantly the latter part of June. Goldenrod, asters and shepherd's purse (*Bursa Bursa-pastoris*) are some of the fall honey plants.

Every few years hundreds of acres of sagebrush are plowed up, as new irrigation projects are developed and consequently more pastures are available for beekeeping sites. The alfalfa weevil in certain parts of Idaho, and the high freight rates in all sections are limiting factors in a much greater development of the industry.

Carload of Bees to Manitoba

One thousand two-pound packages of bees were sent from Conway, South Carolina, by J. E. Marchant, to R. J. Smith, Winnipeg, a distance of over 2,000 miles. Another thousand packages were coming, to him, at the rate of 100 on each train.

The arrival of that carload by the Northern Pacific train, on May 14th, was an event in Winnipeg in the beekeeping industry.

Thus we may see that cold countries like Manitoba are not afraid to go into the bee business. Such doings ought to make interesting talks at the International Congress of Quebec, next September. (Western Gardener and Beekeeper, of Winnipeg, for June).



Idaho apiary with plenty of shade.

GETTING THE JELLY INTO THE CELLS

By Jay Smith.

THE quality of the queen depends more upon the amount of royal jelly she received while in the larval state than upon any one other feature. Commercial queen breeders have found their hardest problem to be to get abundance of jelly into the cells. By abundance I mean that there should be enough so that after the virgin emerged from the cell, there would still be a small quantity of jelly left. If there is, the queen has had all she needs and more jelly would have done her no good. However, in nature, the bees err on the safe side and when the conditions are right they usually place twice as much jelly in the cells as the queen larva can use. I have examined thousands of cells reared under a variety of conditions and have done a great deal of experimenting to see how much jelly we could get the bees to put into these cells. As stated, if the queen larva has all she can eat, she has had all that would benefit her, but we wish to do as the bees do during swarming and have a large surplus so that there would be no danger of any larva being skimmed for food. Now one of the main features in getting abundance of jelly into the cells is that the colony should contain a large number of bees and especially young bees, and that the bees should have food in abundance for several days before giving them the cells to build. But another feature is of equal importance when we use the grafting method and that is the time that the bees have to put the jelly into the cells. By that I mean if an exceedingly small larva is used the bees have more time in which to store jelly into the cell than would be the case if a larger larva were grafted into the cell cup. This is of very great importance and I believe this has not been fully realized. I do not know just what the proportions are, but I believe that nearly all of the jelly is placed in the cell during the first three days of the life of the larva, beginning from the time the larva hatched from the egg. I believe that during the last two days before the queen cell is capped over the larva receives very little food, if any at all. The larva is kept moist and may receive a little food, but very little. I remember an incident that happened a number of years ago that called my attention to this fact. A bar of newly-grafted cells had been given to a queenless colony for starting. They were left there for about two days and the larva was about one day old when grafted. When this larva was about three days old the bar was taken out and placed in another colony for finishing. In placing the bar in the finishing colony, it was not properly secured and one end dropped down on the bottom bar, thus closing the opening in four of the cells. When I came to look at them, I found that those that were accidentally closed

had as well developed larvae in them as the others that the bees had finished in the usual way. I was surprised, for I had supposed that they put as much jelly into the cells the last two days as they did the first two. Now if the above is true, if we use larvæ a day and a half old and most of the food is given them the first three days, larvæ thus grafted will receive but one half the amount of food that the ones would that were reared from eggs that had been laid in the queen cells.

Let us suppose, then, that most of the jelly is put into the cell in 72 hours. If we use larvæ 18 hours old, we will get twice as much jelly into the cell as would be the case should we use larvæ 36 hours old. I do not know that these proportions are right, but from experience I feel sure that this is right in the main. From this we should understand the importance of using larvæ just as small as we can get them. True, it is more difficult to get as high a percentage of acceptance when using the extremely minute larvæ, but we must perfect our methods so that the bees will accept these small larvæ rather than use larger ones.

There is another thing in this connection that I believe, but am not quite sure of. Scientists who made a study of the subject tell us there is no difference in the food given to the queen larva and the worker larva for a short time and this is probably true. But I believe the food is continually changed in moisture content from the time the larva hatches from the egg until the cell is capped over. It is very thin at first and becomes thicker with the age of the larva. Royal jelly taken from a cell that is ready to be capped is not suitable for a newly-grafted larva. Many queen breeders have practiced what is called "double grafting." By this plan, the larva is removed from the queen cell that is about to be capped and a very young larva placed in its stead. I have done this a number of times, but the bees do not seem to like this food that was intended for an older larva. Many are torn out and the acceptance was not as good as when grafting in the first place when a little jelly diluted with water was given. In other cases when they did accept them, they made a hole down to the bottom of the jelly and dug out a lot of it while feeding the larva a thinner food. When they accepted them, I believe they ignored the older jelly and put a little thin jelly on top of it. When this was done fine queens resulted, for this old jelly, that was put in at the first grafting, was all right for the larva after it "grew up" to it.

In view of the above, some have said if queens are reared from the egg better queens result. Rearing them from the egg will not give good results unless all of the other neces-

sary features are present, namely: lots of bees and lots of feed. However, if the larva is grafted at an age of 12 hours or under, or if they are taken just as small as they can be seen by a person with good eyesight, and if other conditions are right, there will be jelly in abundance, so that after the virgin has emerged there will be dried jelly left in the cell. And when this is the case, more jelly would have been of no benefit.

Some time ago, in experimenting, I built up a finishing colony by giving brood till it contained about 200,000 bees. They got so crowded in a two-story hive that they swarmed and the swarm weighed twenty-five pounds. My grafted cells were finished fine and large and there was plenty of jelly left after the virgins emerged. But the colony started a few cells of their own and of course started with the egg in the cell. They had twice as much jelly left in them as my grafted cells and at least five times as much as the larvæ needed.

In summing up I wish to again emphasize the importance of getting the smallest larvæ possible when grafting and if good queens cannot be reared in that way, use the method of giving a queenless and broodless colony a frame of eggs only from your breeding queen. Indiana.

El Paso County

The El Paso County Beekeepers' Association, at its annual meeting in El Paso, Texas, elected these officers for the year:

President, W. J. Stahmann, Clint; Secretary, Oscar L. Poe, Canutillo; Treasurer, G. M. Church, Vinton.

Elmer Keagle was appointed to succeed Van Avery as bee inspector, and was instructed to devise ways and means to keep El Paso County free from disease.

Members of the association own in the neighborhood of 11,000 stands of bees. The average production is 50 pounds of extracted honey to the stand.

Experts believe that the average production would be considerably higher if there was a better distribution of colonies so that bees would not have to travel as far as at present.

Alfalfa is the principal honey plant in El Paso Valley. Honey produced in the early part of the season is fairly light and darkens to amber as the season continues.

Since cotton became such an important crop in El Paso Valley, many of the bees cross over into Mexico, where are more ungrubbed mesquite than remain on the Texas side. Mesquite blossoms make good honey, says A. C. Wilbourn, who keeps his bees in El Paso. "In fact," he adds, "the labors of our bees have been more fruitful than those in other parts of the valley farther from the Mexican border."

August Wolf, El Paso, Tex.

AMERICAN BEE JOURNAL

Established by Samuel Wagner in 1861

The oldest Bee Journal in the English language.
Published Monthly at Hamilton, Illinois.

Entered as second-class matter at the Postoffice at Hamilton, Illinois

C. P. Dadant Editor
Frank C. Pellett Associate Editor
Maurice G. Dadant Business Manager
Subscription Rates: In the United States, Canada and Mexico, \$1.50
per year; five years, \$6.00. Other foreign countries, postage 25
cents extra per year.

All subscriptions are stopped at expiration. Date of expiration is
printed on wrapper label.

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ROOMS FOR BEEKEEPERS AT QUEBEC

Those who want rooms at the finest hotel in eastern Canada should write to Mr. C. Vaillancourt, at the Ministry of Agriculture, to retain their rooms at the Chateau Frontenac. The price of the rooms is \$6.00; but two persons may be accommodated in a room. Remember the International meeting begins September 1.

Mr. E. R. Root, of Medina, Ohio, suggests that beekeepers from the West might go together from Chicago, if enough of them start from there to load a Pullman. Let those who are going write us about it and we will try to arrange for their berths.

THE DOOLITTLE METHOD. WHO DISCOVERED IT?

Several of our contemporaries assert (see Rucher Belge, May, page 76,) that the Doolittle method of queen-rearing, with artificial cell cups, was not the invention of Doolittle, but of a German named Wankler, who claimed to have sold the invention to Frank Benton in 1883. But the fact is that Frank Benton never described this method and never recommended it. In his book, "The Honey Bee," published by the Bureau of Entomology in 1899, he makes no mention of this method, yet he has an entire chapter on rearing and introducing queens, and in this chapter he mentions the Townsend method, the J. M. Brooks method and the Henry Alley method of cell production, but says nothing of the Doolittle or Wankler method, although Doolittle had published his method ten years previously.

In October, 1878, W. L. Boyd wrote an article, published in Gleanings, page 323, of that year, in which he suggested that, since the rudiments of queen cells are readily found in hives, it might be well to "cut them out, keep them on hand and get as many cells as you want by taking a flat stick, removing a larva that has just hatched and putting it in the bottom of the acorn (or cell rudiment); for the bees will accept the situation at once and soon have a nice sealed queen cell from every acorn given them." Then A. I. Root, apparently half in joke and half in earnest, suggested that queen cells might be made by dipping a wet stick of the proper size in melted wax. This was evidently the origin of the Doolittle cell cup idea.

Whether Mr. Wankler also made the invention or not, it is very evident that the Doolittle method, which is now known all over the bee world by that name, was the invention of Doolittle, without any German help. If Benton bought the Wankler method, he never mentioned it, and it is at least strange that Wankler should wait till after the death of Benton to claim priority of invention.

The reader may also refer to A. B. J., 1917, page 152.

NECTAR GLANDS IN PLANTS

An essay on "The Structure of Nectar Glands of Some Iowa Honey Plants," by William S. Cook, is published as Contribution No. 113 of the Department of Botany of the Iowa State College at Ames.

This is too scientific a subject to be gone over in

detail in our columns. But the student of botany will find useful information in this bulletin. The author quotes 24 different authorities on the subject, among whom we see the name of Dr. Bonnier, whose work, "Les Nectaires," published in Paris in 1879, secured much attention, for Bonnier was a beekeeper as well as one of the leading botanists of the age. The work of Mr. Cook, reprinted from volume 30 of the Iowa Academy of Science, contains 28 pages and 10 plates.

LATE AND SECONDARY SWARMS

Quite a few complaints come to us of late and secondary swarms which are of but little value to the apiary, leaving the mother colony rather weakened.

There is a very safe way of getting rid of these swarms. It is to return them to the parent colony. But if they are returned immediately there is a possible chance of the same swarm issuing again. If we hive them and keep them in the new hive 24 to 48 hours, then return them, they will almost invariably stay. This is an old method, of box-hive times. The explanation is that, within a day or two the colony becomes settled, the queen cells are destroyed, leaving only one queen. When the swarm is returned the bees are not yet treated as strangers, so there is no fighting. But the young queens meet, one of them is killed and the other remains in undisputed possession.

The difficulty, sometimes, is to recognize the hive from which the swarm issued. This may be done promptly after hiving the swarm, by taking a few bees and sprinkling them with flour. If the swarm is removed at that time from the spot where it was hived and put in a permanent spot, the bees when released will have no choice but go back to the mother colony, where they are easily noticed when returning. Often, if we saw the swarm before it settled, we may find the mother colony by passing in front of the hives, for we are often able to see very young bees which have been dragged out in the rush, but have been unable to take wing, and slowly crawl back to the stand. Such returning bees may be noticed even quite a while after the issue of the swarm.

VALUE OF HUBAM AT THE ANTIPODES

The Agricultural Gazette of New South Wales, for May, 1924, in comparing the values of Hubam, biennial sweet clover, red clover, crimson clover and Berseem or Egyptian clover, gives the highest recommendation to Hubam, which it also calls annual Bokhara. This, it appears, was visited by the bees much more freely than the biennial. Scarification of the seed is recommended. None of the other clovers was considered of any importance.

Beekeeping is highly recommended in this magazine on account of the usefulness of the bees in the fertilization of blossoms. They quote Girard, who wrote: "Money thrown out of the window in encouraging apiculture will return by the door with heavy interest."

QUEEN CELL INTRODUCTION

Now comes Jay Smith in the July number of Gleanings and tells us that queen cell introduction will be perfectly safe, in a colony the queen of which has just been removed, provided the colony is well fed. Jay Smith is an authority, and although we have never succeeded in introducing queen cells immediately after the queen was removed, we know that all apiary operations are easiest when the bees are well supplied with honey. So it is not difficult to believe his assertion. However, we would feel safer in waiting till the bees find themselves queenless, which sometimes happens within half an hour after her removal.

The writer had a little experience, years ago, in this introduction of queen cells, that would go towards establishing a doubt as to the success of immediate introduction. It was during a honey crop. A beginner came to us and asked for instructions upon the making of nuclei and introduction of queen cells. I proposed to give him an object lesson at once and asked him to help me. We made eight nuclei, taken from full colonies,

two combs of brood and bees to each nucleus. We had queen cells nearly ready to hatch. Feeling quite sure that those small swarms would very promptly notice their queenlessness, I introduced the queen cells within an hour, so as to make the lesson complete. Not one of those queen cells was accepted, as I found out, to my confusion, the very next day, for I felt that my friend might fail if he tried to follow me in practice. It is certainly safer to wait 24 hours to introduce queen cells. However, it is quite possible that, if I had fed those bees, as recommended by Jay Smith, the mishap would not have happened.

THE OFFICE MAIL

Reading the office mail is like having a chat with the friends of the American Bee Journal from Maine to California. While many are very brief with their correspondence, confining themselves directly to the object of the letter, there are so many who add a paragraph to tell us something about the weather, or the honey prospects, or possibly about the new baby, that it adds much to the interest of the day's work.

An Indiana subscriber writes that 1923 was the poorest honey year in his experience, that farm products were low in price and that factories near by are not running. He has found it necessary to borrow money to pay taxes and proposes to trade his farm for town property and to go to work on the public roads which are to be paved this year. There is a very general complaint that farmers are having hard work to keep even at present, but "it is a long road which has no turn" and economists are generally agreed that prospects are for better days ahead for the farmer. According to the best available figures more than two million people left the farms last year to go to work in town. A large number have gone again this spring, but no figures are available as to the number. With millions less to produce and a corresponding number more in town to be fed, the big surplus of food stuffs which accumulated, due to the unusual stimulation of war-time production, will shortly be consumed. In fact, the best observers are convinced that the world will wake up hungry before many years. When that time comes, the producer will have his turn at prosperity and many who are changing now will find that the shortest cut to prosperity would have been to stay on the job.

There is a great increase in interest in beekeeping, in the Canadian prairie provinces and in the Dakotas. L. T. Floyd, apiarist of Manitoba, writes that two men ordered \$1,000 worth of package bees from Southern shippers and that probably ten thousand packages would be imported into Canada through Winnipeg alone. This region seems to be especially favorable for good honey flows and, since wheat has been so low in price during recent months, many are taking up beekeeping who would not otherwise be interested.

Jay Smith writes that he visited his old home in Houghton, South Dakota, in January. It had been thirty years since he left there and he was hardly prepared to find such large acreage of sweet clover. He says: "At Houghton there is plenty of sweet clover—thousands of acres within range of bees, but no bees to gather the nectar. It is the same all over there. It was twenty below while I was in Dakota. It might be all right for honey, but excuse me, I don't care to live there any more."

The good things are not all done up in the same package. Where we find the finest climate we seldom find a dependable bee country. Some there are who are content to keep bees in the North in summer and spend the winter where the bees can fly every day.

Several readers have sent us clippings from the newspapers, giving a story of a new creation, the stingless bees known as the Adel strain, which have recently been developed by a man named Campbell. This story has gained very wide circulation and many publications seem to take it seriously. The story was started as a means of getting special notice for a western beekeeping meeting. Mr. Campbell first decided to tell the public about some especially gentle bees which would be shown at the meeting. In order to put a real kick in the story, the county agent told the reporter that they were stingless

bees. The reporter's imagination supplied the rest and the story has been printed from one end of the country to the other. There was a good attendance at the meeting and those present were told how the story was started. The more impossible a story, the better it seems to take with a common type of newspaper.

Recently a clipping came to my desk giving account of a breakfast given by the President to a number of United States Senators, at which they were served with buckwheat cakes and syrup. On the margin was written in pencil, "Why not honey?"

President Coolidge was a Vermont farmer and very probably maple syrup was a feature of his farm activities. What could be more natural, when he reached the White House, than to serve cakes and syrup to his guests? This brings up the suggestion that some live beekeepers' organization might send the President a case of the finest quality honey with the suggestion that he try it on his breakfast cakes.

A Kansas reader writes that he is going out of the bee business, after 24 years, because there is no longer any market for honey. The fact that in some localities beekeepers find it hard to dispose of their product, while in other markets there is little honey to be had, shows the importance of a better distribution of our product. To dispose of the surplus in the glutted markets and to supply the need in those where no honey is offered is the big problem before the beekeepers at present. Such co-operative organizations as those of Colorado and Texas will do much to remedy this condition. However, the beekeeper who makes the effort can dispose of a surprising amount of honey in a locality which already appears to be well supplied.—F. C. P.

HOW MANY EGGS PER DAY?

The limit of 2,000 eggs per day as a maximum, found by Dr. Merrill, as recorded in this number, does not prove that queens are limited to that number, else the large hives would prove a fake. There is need of further tests. In seasons when colonies harvest several hundred pounds of honey. The low results given are surely not followed by the tremendous crops often recorded. Mr. Demuth recorded immense results from immense production of brood, just as we have often done.

CONTRIBUTIONS FROM LITERARY PEOPLE

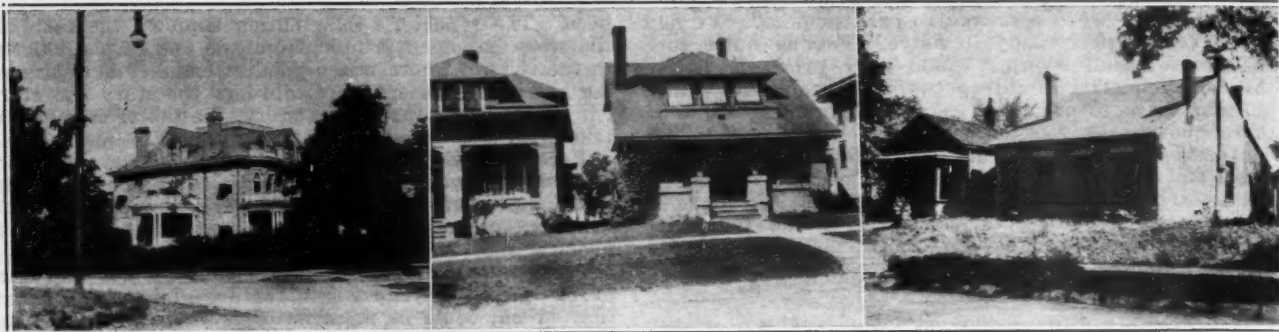
The "Gazette Apicole" came forward again this year with contributions on bees from literary people, who are not beekeepers. This time they are from 31 different women writers and make a very fine display of most interesting literature. Those special numbers serve to break the uniformity of practical bee talk, which is so necessary to the honey producer, but rather satiating to the lover of variety. One of those contributions is translated for the present number ("Bees vs. Beets").

PROPOLIS FOR HEALING WOUNDS

In "L'Apiculteur," of June, L. Thevenin recommends the use of propolis for skin wounds. He writes:

"Some fifteen years ago, while opening a hive at a friend's apiary, I wounded my hand quite seriously, upon a nail. Bleeding did not stop, although I washed it freely. In order to be able to continue the work I applied to the wound a little propolis gathered in a crack of the hive. When I removed it, 24 hours later, I found the wound healing, and a second application of propolis finished the cure. I gathered a lot of propolis in my apiary and rolled it into a ball, in case of need. I soon had occasion to use it. A child made a big gash in his hand in opening a door, the latch of which was defective. The flesh was hanging. An application of my propolis cured the wound in a short time. Since that event, whenever some one in my home has a cut or a wound, everybody in the house calls: Bring the propolis."

We believe, however, that a wound, in order to cure readily, must be carefully washed first. Propolis prevents the contact of the air and permits healing to go on speedily.



The three types of homes, from left to right—where the maid meets you at the door—where the back door is often the best—and where money and sales are often scant from poverty.

DEVELOPMENT OF THE LOCAL HONEY MARKET

No. 3—The Canvass

By C. L. Swanson.

ONE of the big problems of the beekeeper is the sale of honey. There are a limited number of honey dealers who work toward increasing the demand for honey, but taking it "by and large" the small producer, east of the Rocky Mountains must, to a certain extent, create his own market. Like all honey producers, Dadant & Sons have customers, located throughout the country, who rely on them for honey but who constitute such a small per cent of the possible outlet that a need for increasing the interest in our honey has become necessary. We decided that honey sales, like charity, should begin at home, and we chose the neighboring city of Keokuk, Iowa, with about 15,000 population, for a honey-selling campaign.

The preceding article told of our purpose, which was to create a steadily-increasing market, and they also gave our method of advertising. The next link in our chain of sales was a canvass of the city.

Conditions Affecting the Canvass

The first step was mental survey of the town. We took into consideration the different residential districts and upon what the people in them depend for their livelihood. The financial situation is very important; employment must be good in a city to make it a good prospect. Climatic conditions also are influential in honey sales here. Honey is in much better demand in cold weather than in mild. People associate cold weather with hot cakes and honey.

My ideal recipe for honey sales would be: "Select a nice, plump town of assorted population. Mix in all the steady employment that it will dissolve. Season with 8-inch ice and garnish with 18 inches of snow. Serve with honey while at a temperature of less than 20 degrees Fahrenheit."

In our selling, the weather was rather mild for late November and December. Cold rains were common. Unemployment was frequent

and was increasing. The town had been stocked with honey, both by canvass and through stores. But by giving ourselves a few hearty cheers, we drummed up courage enough to make a flying start and vowed to increase our momentum as we rolled along. Unlike the rolling stone, we gathered moss and acquired a polish at the same time.

In our canvass we were not to sell honey direct to the consumer. Our object was to take orders—absolutely definite orders—for certain sized containers of honey, to be delivered to the housewife through her regular grocer. At first glance, it seems easy to obtain a large number of orders in this way and have these orders cancelled at the grocers. We emphasized to the housewife that we only wanted an order, providing the honey would be accepted upon delivery. Inquiring at the stores afterward, we found that acceptance of orders ranged from 95 to 100 per cent. The average housewife is a woman of her word. By writing down her order with her street address and grocer's name, we gave true indications of future delivery.

The Sample Carrier

We each carried a sample box with a handle on it. You will see these in the illustration. These little wooden carriers contained a 1-lb. glass jar of a dark grade of honey and a 1-lb. glass jar of a very light grade of honey. Also in this carrier we had lithographed pails, which were very attractive, in the different sizes, 2½-lb. 5-lb and 10-lb. These pails, of course, were empty but were to show the size container we could furnish. Usually we filled the 10-lb. pails with samples of honey, these being in the paraffin paper containers, as shown in our previous article on "Advertising" (July Journal). The samples were a great aid to us.

In placing the containers in the carrier, we held it so that the 10-lb. pail and the two glass jars of honey faced the prospective customer. The glass jars were not for sale, and we were not even taking orders for this

size. We showed the customer, when an inquiry was made in regard to these glass containers, that the cost of the container and the cost of packing such a small amount of honey so high per pound that we did not care to quote on them. We urged the 10-pound pail. By turning the container around, the 5-lb. pail came into view, while the 2½-lb. can was hidden, and we only brought it forth when all chance of selling a 5-lb. or 10-lb. pail had disappeared.

Sales Talk and Approach

Now there is a secret which I am going to tell you. We were all embryo canvassers. If we succeeded in spite of competition and difficulties, don't think it was our previous experience that helped us. But we soon acquired a knowledge, based directly on honey sales, that showed us the knacks of selling a specialty such as honey.

Our sales talk was developed almost entirely from the reaction to suggestions made by our prospective customers and from the objections they made before succumbing to our persuasions. The principal point we carried in mind was that we were selling, not honey, but an appetite satisfier. We were selling an elusive something, delightful in flavor, very healthful and rich in food value, which was called honey for convenience of name. We attempted to arouse an interest, then create a desire and finally furnish the means of gratifying such desire.

Longfellow describes Miles Standish, that sturdy Puritan, as a man who could face a cannon but who could not take "no" from a woman. We felt the same way and contrived to give our prospect no opportunity to end the conversation in a negative manner. The easiest way to get a cold look and a firm denial is to ask: "Do you care to buy some honey today?" People admire ingenuity and interesting persistence. No impertinence nor apparent stubbornness will gain an order, but a little talk on bees and honey, simple and

interesting, will hold customers while you explain your proposition and bring them right up to the buying point.

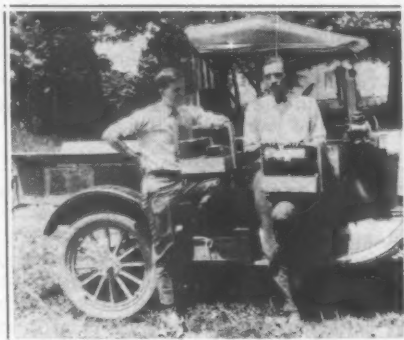
Remember that you can talk too long. Time your speech. Bring your customer to a definite buying point before you broach the question of sales but, at the same time, do not pass by this point until you have an order or a definite refusal. I do not mean that you cannot sell the housewife honey after you have passed this point, but be sure to give her a chance to buy before you do.

When we began, we (or at least I), knew very little about how to approach the lady who answered the door. In fact, I believe that a number of the first sales we made were due to our blushing confusion, trying to impress our prospect with the wonderful flavor and extreme delicacy of our honey. This soon wore off, however.

In canvassing, we laid off our routes so that they ran parallel across the city. We would meet several times in the forenoon and in the afternoon, also, for just five or ten minutes, and exchange notes and results. In this way any line of thought beneficial to honey sales discovered by one person was made known to the rest of us and improved so as to be as effective as possible. From 12 to 1 we ate our lunch and compared notes, sales, conditions and suggestions. In fact, we worked, ate and slept with the concern of selling honey on our minds.

We agreed, after giving several methods a trial, that the best was to begin to explain your business just as soon as the door started to open. No opportunity was given the housewife to become disinterested. The salesman continued to talk bees and honey, telling how it was gathered from the flowers and cared for very cleanly and sanitarily by the bees. Then, while telling from what flowers the honey had been gathered, the canvasser opened a sample of honey for the prospective customer and

asked her if she would please get a spoon and taste this honey so that she might be familiar with this particular flavor. It is very seldom, indeed that you get a refusal. Usually the housewife is ready to give a little time for this purpose. After she has tasted the honey from the sample, in practically every case, she hands back the little sample which



The car used in the canvass and a part of the crew with sample carriers.

you have opened. We made it a point to be sure and give her this open one in case we thought the housewife would be interested, and whenever a sample was opened in a home it remained there, as we had treated this honey in a very sanitary manner and only asked our prospect to sample honey which had been sealed in our bottling shop, before bringing it out on the route. This seemed to please the prospect because she was anxious to get nothing but clean, well-cared-for food for her family.

We did not come out and ask the prospect to buy honey until she had tasted the sample, unless she gave indications of buying and asked prices. Then we often omitted the sample, as it really cost several cents and increased the cost of making the sale. Many times we used it only when it seemed that the customer was not going to buy.

A very nice opening for honey

sales occurs when children come to the door. All children like sweets and it can be readily explained that honey is one of the most healthful and delightful sweets that they can eat. When children come to the door it is the time to open a sample. It brings more response than the usual talk, since the children seem to appreciate honeyed bread much more than honeyed words.

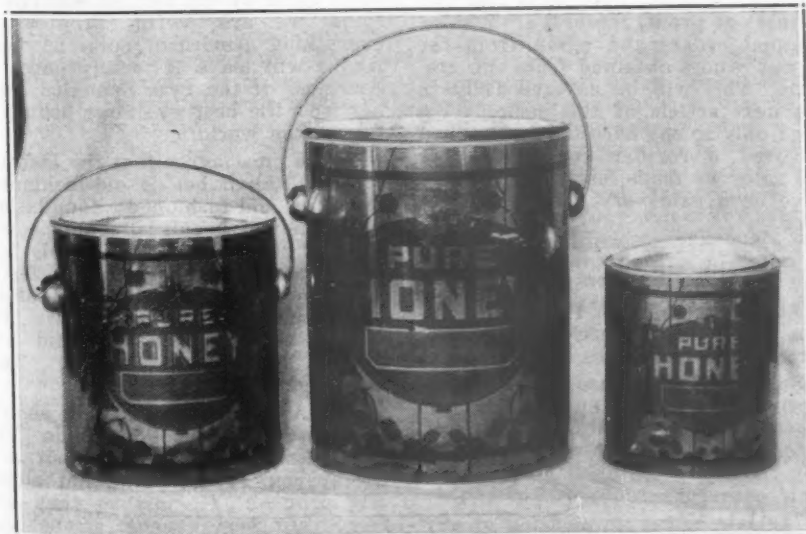
Of course, all sales are not made in the same way. I have taken a lady's order for honey, standing in the yard, while she gave the amount of honey she wished and the grocer's name, from the upstairs window where she had been cleaning house. Of course, we did not push our sales along the street, but only at the homes. Several ladies, however, stopped on the street and gave us orders for honey.

One of the most interesting sales was when, after talking to great length explaining the high quality of our honey and how convenient it was to obtain it, I found the lady I was addressing was completely deaf. She was also mute, and in order to explain my mission I gave her a price list of the honey, showed her the different kinds of honey in the bottles and wrote on the price list that we would deliver this to her grocer upon her order. I was very much surprised to get an order for a 10-lb. pail, and I still have the slip of paper covering our conversation.

A number of the housewives who objected to honey had had some before and did not like it. Our reply was always to assure them that they had gotten poor honey which was perhaps honeydew or which was gathered from flowers that did not produce well-flavored honey. Light honey is in demand here. It is much preferred over the dark, and when mention was made of honey that was not entirely satisfactory, we held up the bottle of white honey and opened a small sample of it, giving them an opportunity to know its fine flavor.

The chief lines of resistance to honey sales were the high cost, the fact that people did not care for honey, and in the afternoons a large percentage of the ladies were not at home. This absence was covered somewhat by the fact that we left circulars, such as price lists and recipe leaflets at the doors of such homes. On the price list, which gave our regular retail prices, we suggested that they call at their grocer's for the honey. This is an important advantage in our plan of distribution through the retail channels of trade.

Few people know much about the uses of honey. We found it possible to rouse interest in honey among those who had never had it to any extent before, just by telling them what they could do with it. The unusual and obscure uses were emphasized, honey-nut sandwiches, honey ice cream, honey-nut sundaes, honey as a sauce or flavor for crushed fruits or in fruit sauce as a spread



The samples of containers which we were selling.

for toast, not omitting the time-honored pancakes and waffles.

In approaching a home, it is rather difficult to know whether to present yourself at the front or back door. Much depends upon the individual occupying the home. Try judging from the appearance of the house and yard. A moderate home well painted, with a yard well kept and a bicycle, roller skates or other youthful implements in evidence, indicates that there is a motherly woman in the kitchen, during at least part of the day, and the back door is usually the best entrance. A staid and exact appearing house may mean elderly people who can most easily be reached through the front door. The back door is usually the better in the morning or around meal time. You are trying to see the lady in charge and the least inconvenience you make for her the more pleasant she is likely to be.

The homes of wealthy people are the hardest to reach. Usually the maid answers you. The most persuasive and thrilling sales talk you can give is translated to the mistress by the maid in five words: "Do you want any honey?" The profit in selling a pail of honey doesn't warrant a great expenditure of time, so such prospects do not receive the same attention as those we meet easily.

Prices

We held strictly to one set of prices and made no deviation from them. There is always a great temptation to cut prices. We found evidence of price cutting by the beekeepers who had canvassed before we did. Our customers would tell us of the different prices these fellows had made on honey and, in fact, we found that their price variations had not taken well even with those to whom they had quoted them.

We found it much better to make and maintain a good standard price to both grocer and to the consumer. Our competitors, even though they started at a lower price than we did, kept cutting down still lower. Please remember that this was before we had entered the market, and, from the orders we obtained, at our higher price, we know that there was plenty of chance for those other beekeepers to have sold their honey at a better margin.

It is much easier to listen to a complaint about price than it is to have customers complain about the quality or the service they are getting. Besides, it is impossible to lower the price where it will meet everybody's approval. You might cut the price of a 5-pound pail to 75 cents and yet many of your customers would try to get a still lower price, although the honey is sold below the cost of production at this figure.

The cost of honey was of some disadvantage. Corn syrup is manufactured in Keokuk, and this was quoted as being a much cheaper sweet than honey. We had to agree

as to its low price, but we also emphasized that there was a big difference between the quality of the two sweets. We found it best to sell honey on its own merits, rather than compare it with some other product.

When the question of price came up, we gave our retail prices on the honey and mentioned that we did not deliver it direct to the house, but we took the order and left the honey at any grocery store in Keokuk that our customer might name. In this way we obtained orders where it might have been a little inconvenient to have paid us at the time, and the grocer did our collecting for us.

Results

We found that it was possible for each member of our little crew to make about 100 calls per day. This does not seem to be many, but we did not start in the morning until after 8:00 o'clock and quit at dusk, which at that season of the year is around 5:00 o'clock.

We found that, on an average, we sold about 25 per cent of the houses where we called. Some days, when we were in a good location, the sales would run up to 30 and 35 per cent of our calls. Please remember that these same localities had been covered by other beekeepers before we arrived. In fact, this aided us, in some cases, in approaching the stores, as will be explained fully in another issue. Our good localities were where the laboring men lived. A few weeks afterwards, several of the factories shut down for a short time, and if we had tried to sell honey at that time there would have been no sales at all in these districts.

You would like to ask: "Was it a success?" Our object was to create a demand for honey in Keokuk, so that the grocers would be interested in carrying it in stock. With our advertising in papers, by posters and with samples, and by our canvass, we were able to get a large number of orders to be delivered through the grocers, allowing them a discount. We thus had two chances at profit, the first from these original orders and again from the repeat orders obtained from the grocers. This will be covered fully in the next article of this series. We need only to say here that, if we had received a regular commission for the sales we made, each of us would have been paid very good wages indeed.

Michigan Law on Spraying

According to "The Packer" Michigan has a very effective law making spraying of fruit trees compulsory.

So far, the law has not been effectively enforced, but many fruit growers are now agitating the rigid enforcement of the law as a protection from infected areas surrounding their orchards.

The law makes no mention of any penalty for spraying fruit trees during bloom.

AMERICAN ITALIANS

By J. F. Diemer.

More and more we hear discussions among beekeepers in regard to the markings of Italian bees and queens. No doubt something has happened, not suddenly, but gradually—so gradually that it has hardly attracted as much notice as it seems it should.

The queen breeders of America, without a combined effort, seem to have been working right along together in doing something to that leather-colored Italian bee, and doing it so deliberately, slowly and quietly that it was a finished product before anyone thought much about it, although it took years to do it.

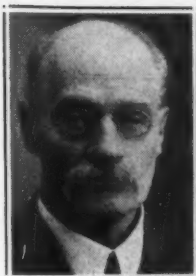
And while these beauty spots were being put on the leather-colored Italian, the highly important and essential qualities have not been neglected by any means. This three-banded, yellow American beauty bee is no doubt an improvement on the original foundation stock imported from sunny Italy. And those three yellow bands are put on to stay; no breeding back like the so-called goldens that seem to hurry back to the three-band style as if they preferred the latest creation to uncertainties.

Only a few years ago breeders were advertising leather-colored, three-banded Italian queens and bees. But you don't see them advertised nowadays; it seems to have faded out to a bright yellow. Some men say they "like the old times best." They mean they would like to be a boy again. The same thing will apply to those that like old styles best, such as the wooden plow and hoop-skirts. O gee! give us a rest.

The majority have voted strong for the bright, three-banded Italians. And why not? I am for them, so are you. If you weren't you wouldn't use them. This American Italian is the result of select breeding; that is the American style, make 'em better. I don't know what old country folks think of us, but we Americans think we are awful progressive; everything American suits us best. And I will leave it to any patriotic American if the Star Spangled Banner isn't the best and most beautiful flag in the world.

So we must agree that the leather-colored Italian bee is old-fashioned, same as old-fashioned foundation, old-fashioned beehives, some people, a lot of other things that simply forgot to keep up with the times. Times do move along. Better trail along with 'em, not after them. We live longer, enjoy life better, and live faster. Nothing like speed. Just keep going.

The American Italian bees should have three bright yellow bands. The queens should have at least four, and be tapering to the point, not blunt. The drones? O, just so they are from your best queens; strong and lusty and husky and hairy, and big, active, strong fellows.



PACKING SECTION HONEY

By J. E. Crane.

I AM not pleased with the way much of the comb honey is packed for market at the present time. United States laws as well as many state laws make it necessary to mark the net weight of honey on each section or the carton that encloses it. Now it is a good deal of work to weigh each section of honey and stamp on the weight, or if cartons are used to stamp the weight on them. Many prefer to have it printed on the carton with their name and address. But they do not know how many cartons to get printed of any particular number, and sections run from ten to 16 ounces. So they guess at the number wanted and order accordingly. If they have guessed right, well and good, but if not, many must be marked over. Well! it is a good deal of a bother and often a considerable expense. Weighing ten to twenty or thirty thousand sections one by one, is quite a job, and if help must be hired for this purpose, at present prices, no small item of expense.

To avoid all this many beekeepers (I fear quite too many) get cartons printed "Minimum net weight, 10 ounces," or it may be 11 ounces, or in some cases 12 ounces, and then put all over 10 ounces in together. This makes it unnecessary to weigh more than a few of the lighter ones, and saves time and seems to comply with the law, at least near enough to prevent prosecution. But is it a wise thing to do? As a beekeeper said to me a day or two ago: "I put in all above ten ounces and get 25 cents a section." Honey, so far as I know, is usually, if not always, sold by the case or section and not by weight, as formerly. The wholesale merchant receiving such honey will doubtless sell for 30 cents or more a section and then the retail grocer will want from 45 to 50 cents a section. I saw it recently in a New England city selling for 50 cents a section, and it is doubtful if any of them weighed a pound.

Suppose now a man wants to take home a treat for his family and buys a section of honey for 50 cents and when he removes the paper carton finds it looking thin and lean and he looks again at the carton and finds the weight marked "minimum net weight 10 ounces." Then he says, "There is only 10 ounces of honey in this package and I have been paying for it at the rate of 75 cents a pound. What a swindle!" It may have weighed 11 or 12 ounces, but the carton said 10 ounces and he thinks that is all it

weighs. Do we blame him if he adds he will never buy another pound of honey?

Small apples, mixed with large ones, if discovered, make the whole sell as culls, and rightly so. Oranges are very carefully graded and each size sold by itself. Careful apple growers are grading their apples in much the same way, and find it to pay; but a beekeeper will cover his 10, 12, 14 or 16-ounce combs with an attractive carton and place all together in the same case and then wonder the demand is so slow.

Most merchants like to please their customers so they will come again, and are more than pleased when they open a case of honey and find every comb to weigh approximately the same, varying only the fraction of an ounce. Bees do not fill the sections the same any more than orange or apple trees produce fruit of the same size; and it is the privilege of the beekeeper carefully to sort his section honey with a pair of scales and fill his cases with combs of even weight so the grocer can handle such goods to the best advantage.

"But what shall we do with the light-weight sections?" some one inquires. No need to worry. We can do as the orange growers do. We can sort them out and sell them by themselves. Small oranges sell readily, perhaps, just as fast as the larger ones, only at a lower price. This is as it should be, for they are not worth as much. The same is true of honey. If a case of 24 15-ounce sections sells for six dollars, a case of 24 10-ounce sections should sell for four dollars, and so on up to six dollars, the price depending on the weight of the sections.

Some grocers want the best filled and heaviest sections, even if they have to pay an extra price for them. Others are not so particular and are satisfied with a 12 or 13-ounce section if they can only buy at a lower price.

I notice buyers of comb honey are more particular in regard to weights than as to whether every comb is capped or combs are quite free from travel stains.

And, finally, what a satisfaction it is to feel that every comb weighs the same and will give pleasure to both the dealer and consumer!

There is reason to believe that if all comb honey was packed in this way it would very materially increase the demand for comb honey as well as the price and less beekeepers be inclined to give up the production of comb honey for extracted honey, where the producer must weigh all his packages and give full weights.

Honey at Hollywood

Waffles and honey are evidently a favored delicacy among the movie picture actresses in Hollywood. A recent dispatch telling of a social gathering there says 114 movie queens were "wading into the hot chocolate and waffles and honey."

ADVERTISING VIA THE CLASSIFIED ROUTE.

By Mrs. Luella B. Lyons.

This particular beeman had very little, if any, faith in the classified ads of his daily newspaper in regard to his own business. The manager of that department had often tried to persuade him to try this method of advertising, but he remained a bit skeptical.

To get business, the ad man from that newspaper one day made him an exceedingly generous offer. The offer was this: He would agree to run an unique ad for one week and if there was no business forthcoming from that ad, he would give him a 3-inch advertising space ad free for one week.

The beeman finally took him up on the offer and the ad was made up. The beeman did not ask to see the copy before it was run, as his faith was so small in the affair. The morning following, he had a phone call from the owner of the factory in their city asking for an immediate shipment of that good honey that was so valuable. The beeman did not quite understand until the other fellow explained that he had seen the ad in the Lost and Found Column of the newspaper.

Very happy, indeed, the beeman filled this order and then hurried forth to procure a copy of the first edition to see what the ad looked like that had given him such prompt results. This is what met his eye: "LOST—A big bag containing some money, a pair of grey gloves, a book of stamps and a package containing one cake of BEEMAN'S Honey and one jar of BEEMAN'S EXTRACTED HONEY. Finder may keep all other contents but should return the package of BEEMAN'S HONEY, THE ONLY ONE OF ITS KIND IN THE WORLD."—Mrs. Advertiser."

No wonder the head of that factory sat up and took notice. Those kind of ads sure would bring business, but just then the phone rang again and he could not read it again. Another order for honey—that ad sure did the work. His former method of commonplace advertising seemed very slow and unsure to what this appealing method was.

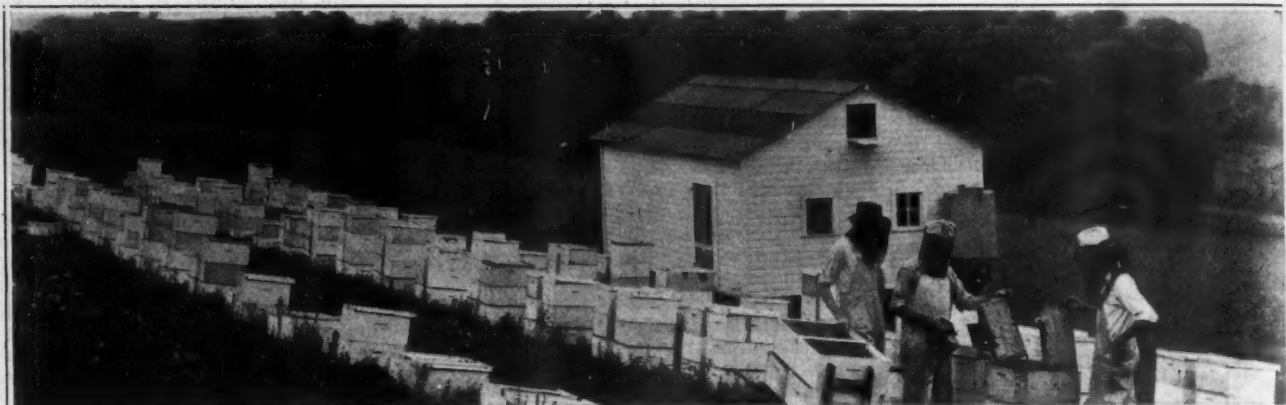
The next week, the ad was changed: "REWARD—For person returning to me the brown leather Gladstone Bag which contained a bank-book, a new suit of clothing and a full case of the Best Honey in the world, which I purchased at the BEE-MAN'S in MASON CITY. Finder may keep all the contents but the HONEY. Will B. AD." This, too, brought an increase in business, and so on, these ads in the classified columns continued to run and to bring business.

Have you ever tried out the classified ad method of advertising? Give it a tryout—it will whet the curiosity of the multitudes.

Illinois.

A COLLAPSIBLE HONEY HOUSE

By C. S. Engle.



As the house appears when in use. The folks in front want you to see that they have real honey to extract in it.

FROM time to time there have been many pictures and descriptions of honey houses of various types in the American Bee Journal. While I believe that I would rather have one large central extracting plant, provided my apiaries were located so that such a building could be used, a good house at each apiary is the next best plan.

There is one disagreeable thing about most outapiaries, that is that they will probably have to be moved at some time. For this reason it is a good idea to build the honey house at such apiaries so that it can be taken down and moved. The houses in our apiaries are built this way. This type of house is popular with some of the local beekeepers; as there are ten such houses in use. The illustrations with the following description will, I believe, enable any one with a mechanical turn to construct a building along the same lines.

The floor of a honey house should be built upon a substantial foundation so that it will support the weight of a large honey crop as well as all supers of combs and other supplies. I prefer to make a trestle of 2x6 ma-

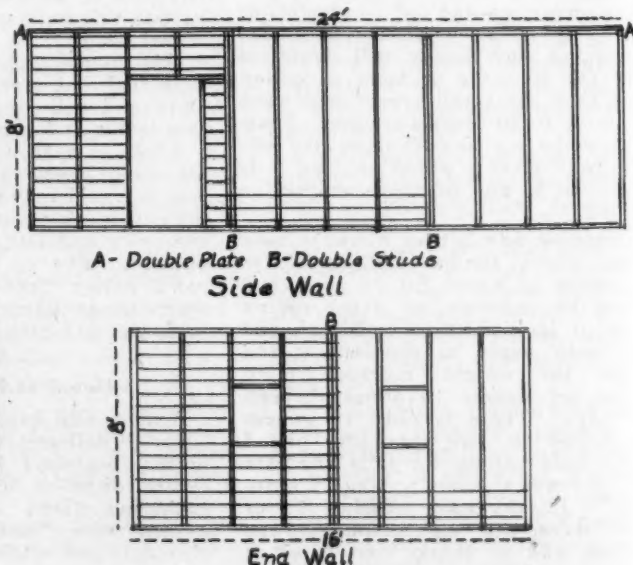
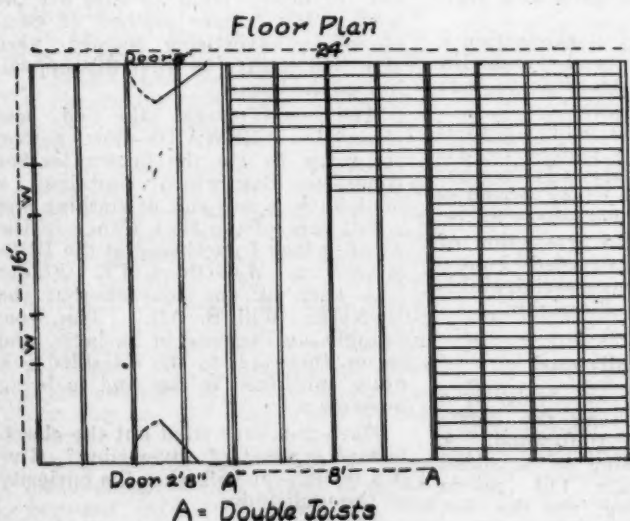
terial, which is creosoted and placed on the ground and the floor built upon it. The joists are 2x8, and in building a 16x24 foot house these joists are doubled 8 feet apart. This is done so that in case the house must be moved the floor can be cut in 16-foot lengths 8 feet wide. When the floor is put back together the double joists are nailed or bolted together. Six-inch barn flooring in 8 and 16-foot lengths is used. After getting the floor down on a good foundation we are ready for the walls.

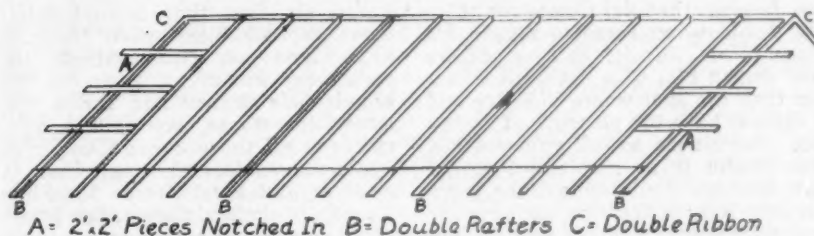
In building the walls the studs are doubled at the ends and every 8 feet. This allows the walls to be cut in 8 foot sections, if necessary to move it. The siding used is a good grade of barn siding and is bought in lengths so that the joints are made on the double studs. Two windows are placed in the end where the extracting is done. The light from these and the open doors and ventilators is abundant for this work.

When the walls are completed another plate is placed on top of the wall plate and bolted in place. The rafters are nailed to this upper plate. The upper ends of each set of raft-

ers are nailed to separate ribbons. The rafters are also doubled at the ends and 8 feet apart. The double end rafters have notches cut in them so that the 3-foot pieces, A, fit in them. The outer end rafters are not nailed to the inner ones, but the pieces, A, are nailed to them and not the inner ones. After the gable ends are finished these double rafters are either bolted together or are held together with spikes partly driven in. This allows the roof to be lifted off the gables and the gables taken out separately. The ventilators in the gables are hinged so that they may be opened and closed by means of a rope and pulley. In hot weather they are very desirable features. In covering the roof a 12-inch board is put around the cornice and the rest of the roof is covered with shiplay, over which is laid a good grade of roofing paper.

In taking apart one of these houses there will be in a 16x24 foot house 6 sections of the roof, 2 gable ends, 10 sections of wall and 3 floor sections. So far it has been necessary for me to move only one of these houses. It requires three or four strong men to





handle the sections, but does not take very long to take down and put up again.

The doors should be plenty wide so one will not injure his hands when pushing a wheelbarrow through them. I prefer a 3-foot door in the side next to the apiary, as this is the side the honey is brought in. A four-frame extractor passes through a 3-foot door and an 8-frame goes through if turned on the side. If a large honey tank is to be used in the building allowance should be made for it when putting in the doors.

The size of house needed will depend upon the number of colonies in an apiary. I find that a 16x16 foot house with 8-foot walls is about right for 100 colonies; that is, it holds supers, queen excluders, escape boards, etc., for that many bees, as well as the extracting outfit. A 16x24 foot house is suitable for 200 colonies and a 16x32-foot house for 300 colonies. If the house has any extra room, so much the better, for most beekeepers need to store cans and pails for their crop.

SOLUTION TO FRIGHTEN ROBBERS

Several enquiries came to us concerning the solution against European foulbrood which Mr. Ray Moore mentioned in the June number, page 290, as useful in keeping away robbers.

We wrote Mr. Moore for a detail of the manner in which he used the solution and he wrote the following answer:

"In answer to your enquiry, I will give full details of this solution, the way I use it. I first go to the drug store and get a one-pound can (12 ounces) of Sinclair's Chief-tain brand Chlorinated Lime—25 cents. Also get 3 pounds of Carbonate of Soda (sal soda), 10 cents per pound, 3 pounds for 25 cents. I make it up as I need it. I take 3 ounces of the Chlorinated Lime and thoroughly dissolve it in one quart of cold water; then take 6 ounces of sal soda and dissolve it in two quarts of hot water. Then put the two solutions together and stir them about 5 minutes; let this stand for 24 hours, with a cloth thrown over the jar, then strain through cloth, and let it settle; use the clear liquid which soon rises above the white sediment. It is now ready for use any time, or may be put in glass jars or bottles and corked tight and kept in a cool, dark place. It is best to use it up within 10 days for spraying foulbrood combs; but for spraying the top-bars to keep away robbers, I have used it satisfactorily 30 days after bottling. I believe if it were not for this solution I would have had to give up beekeeping. Here is the way I use it to keep away robbers: Always carry a good smoker and going well. Blow just a little smoke in the entrance; take off the hive cover and remove the quilt. Have your hand sprayer (throwing a fine mist spray) well filled with this solution. Spray all over the top-bars till it looks pretty wet; (It won't injure the bees one bit). Remove the outside frame, and if you want it to remain outside while working with the colony, give it a good spraying, bees, brood and all. It won't injure anything.

The rest of the frames may be placed back in the hive as fast as examined. If any robbers come nosing around, shoot the spray right in their face and eyes. They will certainly dig out. Don't be afraid to use plenty; it's cheap."

Mr. Moore adds the usual recommendations against robbing, not to expose honey or sweets where robbers can get them and not to leave hives open any longer than necessary. He also recommends that we republish A. C. Miller's article of February, 1922, about the Lewis treatment and the formula for the sodium-hypochlorite used. Here it is:

Through the courtesy of Prof. Franklin N. Strickland, Executive Secretary-Chemist of the Food and Drug Commission of the State of Rhode Island and of the Analytical firm of Calder and Strickland, to whom I am indebted for the information on which I based my first mixtures of sodium hypochlorite, I referred your editorial to him and asked his elucidation of the substance and an explanation of the position you took.

He suggested that I quote the U. S. Pharmacopoeia on the subject and thereby avoid confusion as to what substance is under consideration. The rule, as I first gave it, of one pound of chloride of lime in one gallon of cold water and two pounds of carbonate of soda (sal soda) in two gallons of hot water, then the two mixed, is as close to the U. S. formula as is necessary, and much handier for the average layman to use. It is sub-

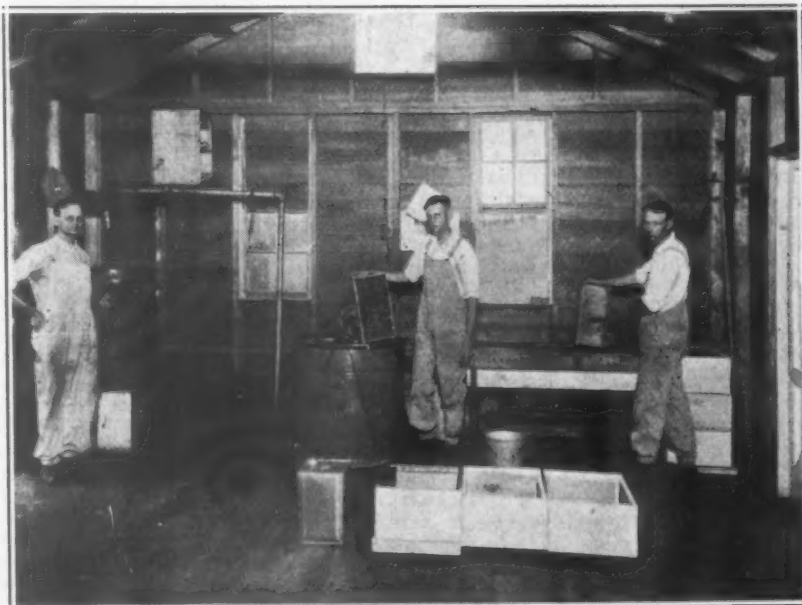
stantially the same proportions as given in the following quotation:

"Liquor sodae chlorinatae. Solution of chlorinated soda. Take of chlorinated lime 12 Troy ounces, carbonate of soda 24 Troy ounces, water 12 pints.

"Dissolve the carbonate of sodium in 3 pints of water, with the aid of heat. Triturate the chlorinated lime, a little at a time, with small portions of the water, gradually added, until a smooth, uniform mixture is obtained. Mix this immediately with the remainder of the water and set the mixture aside for 24 hours. Then decant the clear liquid, and having transferred the residue to a muslin strainer, allow to drain until enough liquid has passed to make, with the decanted liquid, 8 pints. Mix this thoroughly with the solution of carbonate of sodium, transfer the mixture to a muslin strainer and allow to drain, adding water, if necessary, towards the close, until 11½ pints have passed.

"Lastly, keep the liquid in well-stopped bottles, protected from the light."

As regards the differences in the resulting solutions, by accurately following the U. S. P. formula, the results will always be the same if ingredients are uniform. Any differences found will be due to differences in the ingredients used. Professor Strickland tells me that the mixture is not very stable, that an excess of alkalinity makes it more nearly so



Interior of collapsible honey house with everything arranged for speed and convenience.

(see U. S. P. IX), but that for our purposes it is not necessary to have it keep for a long time, but better make a fresh lot from time to time.

Sodium hypochlorite is a wonderful bactericide, is used largely in dairies for disinfecting milk utensils, and in proportions of two fluid ounces to three gallons of water is said to destroy typhoid bacteria in a few minutes. It is virtually the famous Dakins solution of war-time fame and was used in drinking water when other means of sterilization were not available.

As to special forms of sodium hypochlorite, such special forms are included in the citation to the U. S. P. IX, and the simple proportions I gave produce a sodium hypochlorite as effective as any commercial product by whatever name known.

For those who only want a little and do not want to bother to make it, let them go to their druggist and buy a bottle of "chlorinated soda," the common domestic "Javelle Water," and use that. Use it as it comes—that is, do not dilute it.

As to the possibility of the solution injuring the bees, such injury, if it had occurred, would have been apparent in a very short time—a few hours at most. I certainly have seen nothing of the sort, nor have the others reported any such observation, and they surely would have in the course of our correspondence, if there was any such thing to report. I have used the solution full strength and by steps down to a very weak solution, and, except for the disappearance of eggs, before referred to, nothing suggesting harm was observable.

Now, as to my position in this matter, I have no financial interest involved; I do not deal in the sundry ingredients used, nor have I any interest, direct or indirect, in any proprietary firm of sodium hypochlorite. I can get no credit for its application to bee diseases, as it is the discovery of Mr. W. H. Lewis, and the very best I can expect is a little reflected glory by telling the craft about it.

I do know it is harmless to the bees and that I never saw colonies "right about face," clean up and show hustling energy any more suddenly than after applying this solution.

And though I thus express myself, do not think I fail to appreciate your urging a reasonable precaution or endeavoring to curb the normal proclivities of beemen to plunge after every new thing that is well spoken of. But one dollar should cover all costs of material and sprayer; so let's give them a chance to blow themselves to that extent and perchance some one of them may discover something that neither you nor I have seen or suspected.

THE HUBER LETTERS

Wasps and Bees

To Count Mouxy de Loche:

If the fear of being indiscreet had not held me back, sir, I should have solicited news of you long ago. I

was hoping that le Comte de Flumet would bring some to me on his return from Savoie, but his affairs have drawn him to a different direction than the spot where you live and he did not have the pleasure of seeing you. Permit me to ask you whether your health is as good as I would wish, whether your occupations leave you any leisure for cultivating your inclinations, and whether natural history has offered anything to you this year which interested your curiosity and which you would communicate to a poor invalid who would appreciate the value of these communications.

I have almost no one here following the line which we like. There are in Geneva, it is true, a few collectors of nature, but I do not know any true beeman, and one likes to talk sometimes of one's hobby.

Jurine is about to publish his work upon insects; he has already seen a few German criticisms of the system which he has not yet published. So you see, sir, that some people are much in a hurry to pass judgment and build for themselves a reputation at the expense of that of others. They will be affronted, for our friend will succeed sooner or later, as truth usually does.

Yesterday, in a meeting of the Society of Physics and Natural History, presided by Mr. Maunoir, who read to us a beautiful memoir upon aneurism and the method of curing this disease, Jurine did himself proud in praising the talent of his colleague and placing the discovery of the latter in the rank which the modesty of its author had not permitted him to demand for it. That which characterizes our savants and that I appreciate most, is that there is between them emulation without rivalry and that, by the way in which they may help each other, sustain and praise one another, it appears that jealousy and envy do not enter in their make-up.

Mr. Colladon showed us a few branches of Palma Christi; two or three varieties of this plant were loaded with fruits. He cultivated them in his botanical garden; their growth was very fine and one could expect them to grow still better in the South. As castor oil reaches us often in rancid condition from the Isles, and that it is then very dangerous, it is to be hoped that this plant may be acclimated in Europe so that we might secure this useful medicine in a fresh condition.

I had desired, this year, to make a few experiments upon wasps, especially those that live in large associations and make their nests in hollow trees or in subterranean cavities, and I was hoping that they might point out to me one of those great wasp-nests. But they did not see a single one in the vicinity. I had found, however, in the spring, a few small wasp-nests on rose and currant bushes; it appears that those colonies did not succeed, for they saw very few wasps in the spring and almost none at all in the summer. We did not see any near my hives. You

know, sir, that they do not fail to come around them when there are any. Last year, for example, they were very numerous when the bees killed their drones and threw them away; the wasps, acting like crows, removed all those corpses under our eyes; they sometimes took them almost at first hand from the bees. Thanks to their vigilance, the ground about my hives was kept perfectly clean; this summer we had to take charge of this work ourselves.

We did not see any wasps, either on our espaliers or in our orchards nor even upon the fruits which were exposed to dry, and which were, on the other hand, covered with bees and flies. The sweet liquids that draw them to our apartments, the preserves, our meats even, which they sometimes share with us, have attracted none, and the species appears to have vanished in this canton. I saw a few hornets, but they are very rare. All the informations that I have had indicate that there was a scarcity of wasps for a few leagues around. It would be interesting to know how far this extended; and still more to learn the cause of this disappearance. Did you observe it in your canton, sir, and would you secure a little information upon this?

A Mr. Gonthar, owner of the mineral springs, discovered in the valley of St. Gervais (Haute Savoie), assured me that they had noticed that there were no wasps; I did not think that I ever would have to regret their absence. I also miss the Atropos. I was not able to catch a single one, either last year or this; the potato caterpillar also failed, as far as I know. The fear that I had of their enormous multiplication, in 1804, has not been substantiated. So, the bees that I observed, not having the fear of this enemy, have not strengthened their entrances, either last year or this, which is as interesting as the precaution they used when it was necessary.

I close with regret my talk with you. If you can do so, sir, tell me soon how you are and do not doubt of the devotedness of your humble servant.
Huber-Lullin.

At Bouchet near Geneva, October 19, 1806.

To the Professor Marc-Auguste Pictet, upon the Ventilation of Hives:
My Dear Pictet:

Since I submitted to you my work on the breathing of bees, it has obtained more importance in my eyes. I am still better pleased with it since it appeared to interest you, and it is precisely for that reason that I would like to make it more worthy of your approval and of that of your fellows.

The first thing to do, in my mind, is to give my opinion upon the mechanical cause of the renewal of the air in the hive, as a simple conjecture, but the probability of which has been enhanced by the success of artificial ventilators. By presenting the matter in the shape of a question which I do not boast of solving, I assume less risk of compromising my reputation and that of my friends.

The physicians and naturalists will not find any objection to my giving them the liberty of believing differently and of seeking and finding a better explanation of this curious phenomenon.

You did not find fault with my sparing of experiments; well, I am less indulgent than you are, my dear friend, and it seems to me that I did not make enough of them. Why, for instance, did I not repeat in winter what I did at other seasons? Was it not necessary to know whether bees spoil the air to the same degree when the bad season keeps them at home as when they can go to the fields?

The experiment of a closed up hive would have been also proper to repeat. Whatever happened would have taught us whether free communication with the air is as necessary in winter as it is in summer. That which might cause us to doubt it, is the custom they have in some cantons to close up the hives more or less closely at the end of fall and until the return of spring. They say that there are even some peasants who wall up the entrances of their hives with mortar, clay or cow dung. They assure us that those hives do not suffer. Although this method of closing up the hives is not hermetical and imperfectly prevents the introduction and renewal of the air, I will be at rest upon this only when I have seen what will happen to bees as closely confined during the winter as were those which I submitted to this cruel experiment.

It appears to me that there would be no harm, in closing the memoir, to indicate what remains to be done, and if it is desired to say that, I will do so. If I speak myself of hives closed up by farmers in the latter part of the season, I will anticipate an objection which might be raised and which seems peremptory. I will neglect nothing to place me in a position to appreciate it. Perhaps this may be done before the printing, for the test requires but a half hour.

Three years ago, I lost a fine hive in winter, and here is what I believe was the cause: As it was glassed, they had covered it with a heavy straw mat. The ropes having loosened, the mat slipped down too low, unknown to me, and closed up the entrance of the bees. The obstruction was still increased by the dead bodies of bees such as die daily in the hive and which are thrown to the ditch. They rotted there and as the vitiated air caused by these corpses and by the bees' breathing could not be forced out or renewed, the family had to perish.

My son failed to mention to you the only experiment which I permitted to myself in winter. I undertook it at the suggestion of Mr. Senebier, who thought it necessary, and found its result decisive. Does not the current of air, observed by Burnens, in February, at the entrance of his hive, seem to prove that the bees breathe in winter as they do in summer; that they spoil the air around them and know how to renew

BEES VERSUS BEETS

(Translated by C. P. Dadant from "La Gazette Apicole.")

I was born in the department of Nord (France) in the midst of beet fields, extending out of sight around my parents' home. When I was old enough to go to college, my uncle invited me to spend vacation with him.

He had quit beet growing early, leaving the business to his brother, installing himself, with his library and a few family relics, in a small villa of Bugey.

Bugey is the beginning of the South, for it has cicadas during a few weeks; and it is in Jura, where there are mountains, the highest of which, the Colombier, reaches about 6,600 feet. The others are just hills, with valleys between them and some shining lakes. Bugey has many vineyards; marshes without malaria, which are, in summer, sweet-smelling prairies; rocks, eagles, great owls; pines and all kinds of small birds, some wild, some quite tame; bass-wood trees, flowers and bees.

My uncle's house was small, his garden large; He had three dogs, four cats, two goats, three roosters, a dozen hens for eggs, and an apiary which he cared for himself; he had a gardener whom I considered stupid; and a maid, Mary, whom we called Mary-Candy or Mary Grundy, owing to the unevenness of her temper.

My uncle was an eccentric man, that is to say a man living according to his humor, kindly, though selfish, as anyone is who has not assumed the charge of a family: amiable, though often solitary for fear of unwelcome visitors; crude, without any desire of ever writing anything for publication. He read and re-read the old French authors, the classics, and their ancestors, the Latins.

"You should be fond of the Georgics," said he. "And if you persist in being a dunce in Latin, read them in the French. They can stand translation, just like everything worth reading. The chapter on bees is a masterpiece. Poets feel the facts better than savants; Virgil is a better naturalist than Pliny the naturalist."

So I read the Georgics in French and was astonished to find that I enjoyed it. One learns Latin in college, but not Latin literature. However, as I was afraid that, after the Georgics, my uncle would demand of me to read Eneid, I abstained from making any compliments on this author. But I enjoyed tormenting him.

This kind old man was a vegetarian, and while he had Mary-Candy-Grundy broil fine cutlets for me, he kept praising to me the value of a

it; unless the motions of our anemometers be attributed to another cause, such as electricity, or magnetism? Well, however foolish it may appear, it is so easy to remove all doubts in the matter that I will not neglect it. A stick of wax and a glass tube will be sufficient to reduce this suspicion to its true value.

Huber.

food which did not cause the shedding of the blood of beasts, or hard labor in factories; tender bread, good wine, milky food, fruits, vegetables and honey—divine honey, ambrosia for man food, symbol of the sweetness of the spirit, distilled by the Muses, golden honey, perfumed honey; honey, the first confectionery offered to our grandparents in the Garden of Eden and which was not withdrawn from them after their exile.

"Ah! My dear, do not talk to me about your beet-sugar, which smells like an old skeleton, since it is manufactured with piggish chemical rubbish."

This vexed me. If my uncle was able to live at his ease, at Bugey, among his bees and his books, it was because his father and grandfather had refined beet-sugar with bone-black. I was fond of our factory, which I expected to manage some day; I was also fond of the vast field, bright with green leaves in summer and black from the plowing in winter, upon which an infinite sky spread, as upon the sea, with nothing to bar it.

I was seeking for a reply to his "piggish chemical rubbish," but finding nothing, I took a roundabout method.

"Before they had beet-sugar, they had cane-sugar, did they not?"

"First, they had the juice of it, which they called **cane honey**."

"Always honey," said I, with a sickly smile.

This talk was taking place at breakfast. We went to drink our coffee in a pavilion, surrounded with blooming ivy, alive with bees.

When leaving the table, I had taken with me a jar of honey, which was always on the table, without his taking notice of it. While he lighted his pipe, I poured the coffee, which he expected me to sweeten for him.

With his eyes half closed, he began sipping the beverage, of which he was as fond as of the ambrosia of Hymettus.

"Faugh, what is that drug?"

"Coffee, sweetened with honey."

He glanced at me, astounded at my mischievousness. He caught on.

"Ah! Little scamp, you take revenge for your beets, by giving me a lesson. Each thing in its place: honey in tea, sugar in coffee. We cannot be arbitrary, here below. Although we like honey, we need the beets. And even a vegetarian must not sulk at the table of a friend."

Mrs. Stanislas Meunier.

(Dr. Miller used to sweeten his coffee with honey, and liked it. But his was clover honey. Probably the honey mentioned in this delightful account of "Bees versus Beets" was honey from the mountains mentioned in the story and quite strong in the flavor of the blossoms that give a special taste to honey of the Alps. We think, however, that if the old uncle had persisted in using honey in his coffee, he would have delighted in the use of it. After all, the vegetarians have pretty good arguments against eating the flesh of animals or the products of our chemists.—Editor.)

THE EDITOR'S ANSWERS

When stamp is enclosed, the editor will answer questions by mail. Since we have far more questions than we can print in the space available, several months sometimes elapse before answers appear.

STOPPING SWARMS—BEES STINGING POULTRY

Your article dealing with the stopping of swarms by means of a mirror, page 289, attracted my attention and I thought it might not be amiss for me to relate my experience along that line. Last year I hived a swarm, but about an hour later it came out and clustered in a tree again. Before I could get around to hive them once more, they started off. I ran into the house at once for a mirror, 2x4 in., and started after them. I confused them very much. A good number of them settled here and there and several went back to their hive. About a quarter of a mile from home I made them settle on bare ground of a timothy field. While settling they were quite ugly and tried to sting me. This seemed to me to be a clear case of the mirror doing the work. I tried it another time, however, but don't know whether it was a success or not. I made the bees fly low to the ground, but lost track of them. They may have clustered some place, but I couldn't find them. I believe this method of stopping swarms needs investigation, and I suggest a large mirror, not less than 2x4 feet, be used.

2. Yesterday, while working with my bees at my country apiary, I noted something quite numerous in a way. A turkey hen had been setting on some eggs, over some straw I had used to pack my bees with last winter. While I was working with the bees two or three bees attacked turkey's head. One stung her and she commenced to scratch her head, shaking it and snapping at them. Finally she jumped up, took wing, and flew quite a ways after which she took to shaking and scratching her head again. Did you ever hear of them attacking poultry and turkeys before? I always understood they did not.

S. DAKOTA.

Answers.—1. Of course all matters of opinion are subject to further enquiry and investigation, for we are never sure of anything but repeated facts. The instance that you mention is of an irregular occurrence, since the swarm had gone back into the hive and come out again. To become convinced, I would require the stopping of a swarm that had settled on a tree and had left for good. Your swarm might have been without a queen.

2. I have rarely known of poultry being stung by bees, the main reason, as I view it, being that they are so close to the ground that they are generally unnoticed by the bees. But if a dark colored hen makes much ado about a hive she is likely to be attacked. Usually the angry flying of a bee about them frightens them away. Your tall turkey was a better aim than a chicken or a duck.

ROBBING OVER ESCAPES—QUEENS

May I ask you all to solve the problem? This year, the first time I have used a Porter bee escape, beneath a full super of honey, two weeks later I found bees and honey all gone. Please tell me how come.

ARKANSAS

Answer.—It probably happened to you as it did to me when I first used the bee escapes. Only I did not wait so long. When I went to that hive the next morning, the bees were carrying the honey out in great shape, through a small crack in the super. The honey could have all leaked out in that way. Luckily in my case it was the bees of that hive that carried it away. But in some cases it is the bees of other hives, and some-

times even the bees of some neighbor that manage to carry the honey out of a super from which the bees have been excluded. Look out for cracks in your supers, large enough for bees to get through.

ANGER OF BEES

I am seeking some information on the anger of bees. Of course we have just passed through the first bloom, it having stopped about two weeks ago, and the dandelions have stopped since then, leaving only some wild mustard and buttercups for the bees to work on. Now up to and during first bloom I had no trouble handling my bees, but since then I have had trouble. I have read that the falling off of nectar flow causes this; but does it continue until they are active on the clover? If this is the case I believe the best time to work with them is while they are quite busy; am I right? I observe that the larger the colony is, the more anger displayed, but what I really want to know: is it the way I handle them or is it just the conditions?

NEW YORK.

Answer.—There are three things that may cause anger in bees: first, ill-disposition natural in some breeds; second, improper handling; third, unfavorable conditions.

Mr. Langstroth laid it down as a principle that, when bees are filled with honey, they are, like a man who has eaten a hearty meal, little disposed to sting. Not only are they satisfied but the filling of their honey sack causes the body to be distended and makes it inconvenient to curve their abdomen as they do when stinging. So, during a good crop, bees are very likely to be good-natured; for we must also realize that there are no robbers about the apiary and the entrance guards are not likely to be irritated as when robber bees are constantly lurking about.

But you may render your bees cross, if you don't handle them properly, if you knock about the hives so as to disturb them when they are quiet, if you leave the hives open during a dearth so as to encourage robbers, if you do not use smoke in handling them, or if you make quick motions when around the bees.

I do not wish to have it understood that you must always use smoke in opening the hives, but you may be much more sure of their gentleness if you do use just enough to keep them from flying at you or at other people when you handle them.

Lastly, there are breeds and sometimes special colonies which are readily angered. They are usually powerful colonies, often hybrids of different races, which have never been handled, or have not been handled properly. Some bees that are quite gentle may become very cross if improperly handled. This disposition may remain with them quite a long time. We have often removed the queen and replaced her with a queen of gentle breed when they appeared to have lost their gentle disposition.

In your case, it would seem that the short crop and probably some robbing, with perhaps a little careless handling, may have caused the trouble. If your bees are pure Italian they will probably overcome this

disposition during the crop. If they are hybrids we would recommend that you change the breed.

BEES MOVING

I have a stand of bees with three supers thereon. These bees for several days have been behaving in a most peculiar manner. Both night and day they line up all over alighting board, brood chamber and supers and are never still, but each bee is moving up and down about its length, their wings continuously buzzing. All these hundreds of bees in such unison of movement is beautiful to behold, but it must be hard on the actors. Can you tell me why just this hive does this way? Have 13 other hives right in line with this one and all partially shaded from the sun; considerable crowding on front of several hives, but only this one first mentioned is in a constant revel. All three supers about one-half to three-quarters full of honey, or about like those on the other hives.

If you can explain to me why this is going on, I will be very glad to know.

SOUTH CAROLINA.

Answer.—This is one of the unexplained wonders the bees show us. Some of our beekeepers explain it by stating that they are simply polishing the boards, spreading on propolis, etc., but there is nothing sure about it. However, I doubt that they are unduly working, for usually only a part of the bees are thus busy. I have often seen this go on and have never been able to explain it to my entire satisfaction.

Can any of our readers give a satisfactory explanation?

PARALYSIS?

Every morning, for the last week or so, in front and around my hives are lots of dead bees and many that crawl but cannot fly; they soon die off when the sun shines. I think it is paralysis; some hives are getting weak, of course. These bees only get from 10 to 15 feet from the hives and then they are dead. I looked for dead bees away from the hives, but cannot find any; they are close to the hive.

MICHIGAN.

Answer.—The disease which you describe is still an unknown matter to our scientists. It appears, from your description, to be very much like the "Tarsonemus" described with the Isle of Wight disease. But we are told that this mite does not exist in the United States. We would advise you to send both live and dead bees from those colonies to Dr. E. F. Phillips at the Bureau of Entomology at Washington and to Prof. R. H. Kelsey of East Lansing, Michigan, who is a microscopist. As he is nearer to you, there is more of a chance of his getting the bees with mites alive, if there is such a mite in America.

We would also urge that you investigate the possibility of poisonous honey or mouldy pollen, in your vicinity. Usually, the diseases of the adult bees are seen in moist weather. Is this the case in your locality? Is there more moisture than usual?

TIME OF MATING

I wish to know how many weeks after a queen emerges from a cell before she will lay. I have a young queen about 3 weeks of age, not laying.

ARKANSAS.

Answer.—A queen remains from 3 to 4 days in the hive, after emerging from the cell, before she goes out to mate but after mating she delays laying only about 2 days. However, some observers now claim that she may mate several days in succession. But she regularly begins laying shortly after the last mating.

Unless the hive is without food, or does not have enough worker bees to preserve the necessary heat, a queen 3 weeks old is surely deficient, if she does not lay.

DIVIDING

I wish to be advised on (1) whether to attempt dividing and introducing a new queen at this time, as there is no honey flow in my vicinity until the fall flowers? (2) I have some honey stored in shallow extracting combs and four old brood combs. Would it be advisable to use two or three small extracting combs and the four brood combs in the brood chamber and leave the rest empty until the fall flow, or finish with foundation and feed syrup until they draw it out? (3) If advisable to divide now, how long should they remain queenless? (4) Should I give one or more frames of brood in all stages or only sealed brood? Should I put them on new or old stand?

INDIANA.

Answers.—1. Queens may be introduced at any time, though it is preferable to do it during a honey flow. If you can wait until the fall bloom it will be best. However, you may introduce a queen at any time if necessary. Kill the old queen, then put the new queen, in the cage, right in the center of the brood nest, above or among the brood. In two days, release her by placing a piece of cappings over the mouth of the cage after removing the stopper. If you feed the colony a little right after introducing the queen, it will be good, provided you do not give any chance for robbing. Sugar syrup, fed at night, is the best for this kind of feeding. After releasing the queen, leave the hive alone for four or five days.

2. Those shallow extracting combs will not fill the depth of the brood chamber and the bees will be likely to build comb below them. If you use comb foundation and feed the bees, you will get them in better shape for the fall crop.

3. Dividing now is a little late. But if you wish to do it, it is useless to keep your bees queenless any longer than you can possibly help. A queen cell or a queen may be given to a division about 24 hours after the division is made.

4. If you give a division a queen, it will be all right to give them only sealed brood. If they must rear their queen, they need young larvae. A queenless division may be put upon the stand of a second hive, thus giving it all their field bees. Or it may be put upon a new spot, in which case many of the young bees of the mother colony must be given to it. Or it may be put upon the stand of the mother colony and the mother colony put in a new spot. In this case the mother colony should be looked after, as it will raise brood and will be short of field workers. In any case, no comb building should be induced in a queenless colony, as they would build considerable drone comb.

YOUNG QUEEN LAYING.

This spring I got a queen from a breeder in Indiana. The queen has been laying now for about a month, but she persists in laying from two to three eggs in a cell, although I have given her plenty of room in the brood nest. Is this a disadvantage or not, and what is the trouble?

MONTANA.

Answer.—As a rule, it is the young queens who lay two or more eggs in a cell, before they learn how to do their work. They usually stop that, after a few days. There are occasions, also, where a very prolific queen lays two or more eggs in a cell, because she is very prolific and has not enough room within the cluster of bees. They dislike laying outside of the cluster. My opinion is that your queen will soon be laying in the regular way. At any rate, it indicates that she is prolific.

VENTILATION—NECTAR SOURCES—SWARMS

1. In this location there is a dearth of nectar-secreting flowers just at this time of year; there are no cultivated crops which produce nectar; a few cowpeas is the exception, but they bloom later. I have one swarm which lounges around the front of the hive, almost completely filling the entrance (the bee-way board has been removed). This is a large swarm, hived the first week of June. Is this a natural condition to be expected under these conditions? I have a smaller swarm, hived a little later, that seems to be working.

2. There are considerable sumacs and Spanish needles here. Can I expect a surplus from them this fall?

3. I have heard that bees work on buckbrush. Is this true? If so, does it yield up much honey? There is lots of it here.

4. I have also heard that ash and maple yield some nectar. Is this the sugar maple only, or does it include all of them?

5. I have one swarm hived the first of this month; I am feeding it a little sugar syrup each day, using the Boardman entrance feeders. Do you think this is a good idea?

6. The swarm above mentioned was taken out of a tree having been in there two weeks. They had three small combs started, in which four or five cells were capped over, and about the same number of larvae of different sizes. As near as I could tell, all the other cells had eggs in them. Now the peculiar part of this is that some cells had as high as eight eggs in them and nearly all of them more than one. Do you think they have a prolific queen? If not, what caused her to do this?

I suppose these bees are the Italian strain, as I can open the hive and look over the frames without using smoke, veil or gloves, but I notice an occasional black one.

MISSOURI.

Answers.—1. The swarm in question probably does not have enough room, or needs more ventilation. Raise the hive from its bottom, in front, high enough for the bees to stay within. But first make sure they have enough room inside.

2. We always get more or less surplus from these plants every fall.

3. Bees work on buckbrush; but we have never been where there was enough of this bush to give any evidence. Watch it and report.

4. Ash, maple and several other trees yield mainly pollen, though some of them yield honey, but as they bloom in early spring, the amount gathered is small.

5. It is always advisable to feed colonies that are short, in the dearth.

6. Very probably the queen is very prolific and there are not enough cells covered by the bees to enable her to spread her laying. It may also be that this was a secondary swarm, and as the queen is young she may be still inexperienced in laying. This happens sometimes, but very rarely.

PREVENTION OF GRANULATING

I want to ask your advice in regard to heating honey at the time of extracting to keep it from granulating, as it seems to be quite a job to heat the honey after it is granulated to fill our retail packages. My settling vats hold about 40 gallons each; the honey is run through fine screen and then through cheesecloth strainers and is free from cappings. Now I am thinking of putting a water-jacket around these tanks, the jacket running down to about 16 or 18 inches above the floor, so as to put my heating stove inside of lower part of the jacket. Do you think that I could heat the honey to a proper temperature in this way? At the time of extracting, the work would be so much easier done, and most of our customers seem to prefer the honey in liquid form.

ILLINOIS.

Answer.—The method which you propose is good, provided you have a couple inches of space, more or less between the honey tank and the jacket and that space is filled with water, so that there will be no chance for the honey to get overheated. The

water should not get to more than 160 to 180 degrees, and the honey should not pass beyond 180 degrees. Whenever it is at the right point and shows some signs of evaporation, take away the stove. If this stove is an electric stove or a gas stove, it may be readily removed. If the honey is heated to the proper point it should be allowed to cool as promptly as possible, for it gets darker by remaining hot.

Better have a thermometer. A good thermometer does not cost more than 40 cents to a dollar and pays for itself very soon.

Now, let me preach to you a little about educating your customers to the use of granulated honey. Honey granulates naturally and it always damages it a little to heat it. The American prejudice against granulated honey comes from the fact that they used to have none but strained honey from bee trees, in the olden days, and the idea was established that honey must be liquid. But in Europe, where they have eaten honey in the granulated condition for centuries, they know it will granulate and they also know that granulation is a test of purity. Drum that into the ears of your customers year after year, while you heat the honey for the fastidious ones who don't know any better.

ITALIANS VS. CARNIOLANS

Which do you consider the hardest of the two races, the Carniolan or Italian bee? I bought three Carniolan queens last year and the bees from none resemble the bees from another; one strain resembles the common black bee and another the Italian, while the third is a large, ashy grey bee with practically no yellow on it. These queens were all from different breeders. Which would you consider pure, or do Carniolans vary in appearance? I have a few Italian swarms and I want to compare the Carniolans with them, so which of the Carniolans would you rear a young queen from?

IOWA.

Answer.—Our own experience with the Carniolans (not Carnolians, as many people write it) is that they are a grey bee, large, with an ashy, or as some people call it "bluish" color. They are very gentle, but are great swarmers. The descriptions given in the leading books agree with our own. Carniola is separated from the rest of Jugoslavia, from Italy and from Austria, by high, snow-capped mountains. The bees are evidently hardy, owing to the climate. We did not like them because they resemble the common bees so much that a slight mixture is not distinguishable except perhaps in the behavior of the bees.

I would recommend breeding from the ashy gray bee. Those that have yellow bands are only a mixture of Italians.

SIZE OF EXTRACTOR

What size extractor would you advise for about forty colonies? Would you recommend a reversible or non-reversible?

MINNESOTA.

Answer.—If economy is no object, and if you are likely to increase the number of your colonies soon, it will not be a bad plan to get a reversible extractor. But if you wish to economize and do not expect to increase your apiary largely, a non-reversible extractor with two large baskets that may take two shallow extracting frames in each basket will be ample. We extracted for years, and very large crops, with a non-reversible four-frame extractor, which could take eight of our shallow extracting frames. The more machinery you have about your extractor the more chance there is of having to stop for repairs.

MY SAFETY COVER

By Allen Latham.

ABOUT twelve years ago I thought it would be a good thing to give each colony a shallow chamber for the double purpose of helping to control swarming and to hold reserve stores for winter. So I constructed, for my 50 home colonies, 50 half-depth bodies. As my frames in the home colonies are 10 inches deep, this chamber had a depth of 5 inches.

I tried these half bodies for some four years rather faithfully. Since then I have had them all piled away in my bee house, their only value at present being to serve as an extra north side wall, thus making the bee house a little warmer in winter.

My readers will wonder, seeing that so much is being written about the value of "food chambers," why I discarded those shallow bodies. It is quite possible that I did not learn how to use them properly, but I surely did tire of them very promptly. As a help to prevent swarming I found them absolutely zero, for I am sure that as many swarms were brought into existence through their use as were prevented by them. When I wished them full of honey they were either empty or full of brood. When I did not wish them full of honey they would be full and, weighing between 45 and 50 pounds, they were just so much more to lift about. The queen was always in the half-body when I wished her below, and vice versa. No, I doubt if I could be hired to go back to their use—not, at any rate, in my home hives. It is barely possible that I would be willing to try them out on some of the more distant outapiaries.

It is because of my outapiaries that three years ago my mind began to recall those half-depth bodies in connection with those apiaries that I was running for comb honey. It was beginning to become irksome to feed those distant colonies two falls out of three. A reserve of food for winter would be a fine thing on those colonies run on single bodies for comb honey. Unlike my home colonies, which, as I stated above, have frames ten inches deep, my out-yard colonies are on frames of what are termed standard dimensions. When winter comes my home colonies are pretty certain to have four or five inches of honey extending down from the top bar, while those out-yard colonies run for comb honey are not likely to have more

than two or three inches. It seemed to be reasonable that they would profit by having the five inches.

When my mind once gets on an idea of that sort it will not rest until my hands go to work and construct out of solid material that which has been running through my brain like a moving picture. Therefore two as follows: The top bar was just the

Incidentally this arrangement formed an air space at each end of the body.

It will be noted that the frames are closed ends and closed tops, entrance to them being from below. This body, therefore, was truly an inner cover carrying, when full, nearly 25 pounds of honey. To make an inner cover with all the fixings I made a bee-escape hole by notching the two inner top bars, cutting out a half bee-escape hole in each. Diagram will show this.

This bee-escape hole I designed to keep closed with a block except when

Diagram II



Cross section

winters ago I made what I chose to call safety covers for an out-yard of 50 colonies which I was running for comb honey. I will describe how these were made.

First a body was made $3\frac{1}{4}$ inches deep over all and 20 inches long by 16 wide, for it was designed for a 10-frame hive. The end walls were of three-fourths inch material, and the side walls of a full half inch. Note that this allowed a greater width and a greater length inside than the regular body has. Then frames were made length of the inside of the shallow body, while in thickness it was five-sixteenths. In width it was just enough so that ten of the frames would come within one-fourth of an inch of filling the body, this width being a little under one and one-half inches. The end bars were the same width and just long enough to allow of a bee-space. The bottom bars were one and one-eighth inches wide and three-sixteenths of an inch thick. The extra one-fourth inch which the body had over the frames was divided equally and taken up by thin strips tacked to each side wall. If this is not done the bees will not make so profitable use of the outer surface of each side comb. There were thicker strips across the bottom and the top of each end wall, the upper strip serving to hold the frames while the lower served to keep the ten frames away from the end walls.

I wished to use it for an escape. This hole, however, proved to be a doorway into fairy land.

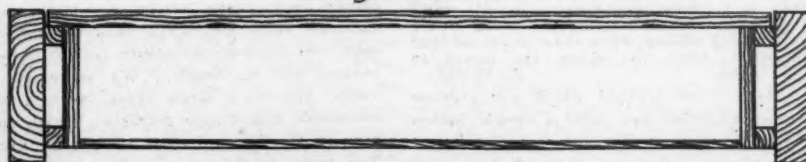
It is a fact, at any rate, that we frequently find, when we have built a thing for one purpose, that the thing in question proves to fulfill an entirely different purpose. I built my safety cover solely for the purpose of making the problem of winter stores in an outyard run for comb honey a simpler problem. This safety cover not only fulfilled the purpose for which it was designed, but it also simplified the swarming problem and increased my crop of honey. It proved useful in half a dozen ways, and to date has developed only one objectionable feature, and that not a serious one. I liked it so well that I built sixty more last winter, constructing them the same except that the frames have an inner depth of three instead of two and one-half inches.

(I did not state that these frames were each completely filled with heavy foundation, the foundation being fastened at top, ends and bottom without any wiring.)

One of the first things I found of value about the safety cover was this: When one goes to an outyard with supers he is sure to find some colonies less advanced than others. Now it may be a week or ten days before he will get to that yard again. To put a super on that weak colony will do more harm than good. It will probably do one of two things—bring on the swarm fever or check the development of the colony. Suppose you simply place that super over the safety cover with the door removed. This doorway is small. It will not carry off too much heat from the cluster. Migrating nurse bees will, on warm days, go through that doorway and start work in the super. The colony will not become congested for

(Continued on page 388).

Diagram I



Longitudinal section

Introducing Mr. T. W. Burleson of Waxahachie, Texas



Burleson is one of those conspicuous successes who make us all feel that we would like to go and do likewise. He will tell you that bees furnish a comfortable and happy living.



No
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He is also a constant and satisfied user of Dadant's Wired Foundation.

He recognizes the efficiency of it; that it pays to use it. The above apiary is one of his 25 yards, totaling over 1,000 colonies of bees. The combs he holds are fine examples of those drawn from Wired Foundation.

Let him tell you what he thinks of it.

"I have always been a crank about good combs. Always, while going through my yards, I keep a lookout for imperfect combs, and, when I find one, out it comes. I have tried many ways to get good combs and the best of these is Wired Foundation with the slotted bottombar frame. Using this foundation and getting the combs built during a honey flow is the best way I know of to secure first-class combs."



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Inch
for
Brood
and
Honey

*When you plan your foundation buying
Consider what this means to you*

Dadant & Sons, Hamilton, Illinois

Makers of Dadant's Famous Foundations
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Made only of pure beeswax

Sold by dealers everywhere—Write for name of nearest dealer.

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EVERYONE, including the beekeeper, is looking for a way to save money—this is one of them.

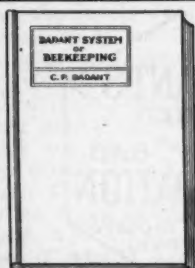
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"THE DADANT SYSTEM OF BEEKEEPING."
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The Dadant methods of management clearly explained, in either of three languages, English, French or Italian. 115 pages—58 illustrations—cloth bound—\$1.00

AMERICAN BEE JOURNAL, Hamilton, Ill.

Italian Queens

Three-band Strain Only. Bred for Business.

All cells are built in strong colonies. All queens mated in three-frame nuclei. No queens shipped until after they start laying, and any that show up defective, in any way, are destroyed. Only perfect queens shipped.

Select Untested Queens, 90c each; \$8.00 per dozen; \$75.00 per hundred. Tested, \$1.50 each; \$15.00 per dozen.

Safe arrival and satisfaction guaranteed on every queen shipped. Also, package bees at any time.

Caney Valley Apiaries, Bay City, Texas

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OHIO VALLEY QUEENS

FOR QUALITY

FOR SERVICE

Your colonies headed with an Ohio Valley Queen now will mean your supers full of honey later.

Mr. H. B. Coyner, of Fairfax, Va., writes: "I have one of your queens that last year made eight supers, 32 sections to super, full of honey, and her bees did not build any queen cells. I have several more of your queens that did well."

Queens of Quality at a low Price:

Untested, 1 to 12	-----	\$1.00 each
Select Untested, 1 to 12	-----	1.25 each
Select tested, 1 to 12	-----	1.75 each
Virgins (not mated)	-----	.40 each
Special Brood Frames, per 100	-----	5.75
Wings clipped free on request. Safe arrival and satisfaction guaranteed in U. S. A. and Canada.		

OHIO VALLEY BEE CO. CATLETTSBURG, KY.

(Continued from page 386).

lack of room or for having too much room. The safety cover is automatic in its action right here.

Next week when you visit that outyard you will be well pleased when you look into that weak colony to find that it is telling you in plain language that you may now lift the safety cover and put the super between it and the brood chamber. You have discovered that you can at any time put extra supers above this magic doorway without any adverse consequences.

Colonies swarm from two provoking causes—too much prosperity and from congestion. Small and weak colonies will swarm from congestion, and strong colonies will swarm because they feel like it (I guess).

This magic doorway will work its charm on the strong colony as well as on the weak, and you can give safe extra room by its means to the weak colony and ample extra room to the strong. To give ample room in a strong colony often results in the work being too much spread out, and the final result is bad. By the doorway one can crowd the work below and allow expansion above without the danger of incomplete sections.

The ten-frame hive is not large enough to allow room for a good queen and at the same time admit of sufficient stores, both pollen and honey, to keep the colony developing. The safety cover plus the brood chamber is enough for a colony run for comb honey. There are few queens, indeed, that can profitably use more room than will be furnished by a ten-frame body plus a safety cover such as described. I know that we read of queens occupying two bodies, and of rare queens occupying three bodies (I have had them), but please note that I use the word profitably. I personally would prefer to have a queen keep nine or ten frames solid with brood than to give that same queen the range of twenty frames and have her scattering her work. I honestly believe that concentration of work is the key to success in beekeeping. Concentrate the work of your queens; concentrate the work of your honey storers. Do this and you will get better results in the long run.

The safety cover in early spring furnishes extra space for the queen in the height of her egg-laying and when the workers chuck honey into the cells as the brood there emerges, the regular frames below are sufficient for the queen as she begins to let up in her activity. I called this device a safety cover, as I had in mind safe wintering. But it proved a safety cover in that it served most opportunely to turn the work of the colony at that dangerous point when swarms are so prone to issue. You know that the non-swarving colony is the one which we get interested in storing up honey, just at the critical moment when, in the hands of the amateur, the colony would be cer-

tain to swarm. It is easy with the safety cover to turn this trick.

That doorway is the handiest place to put a new queen I ever saw. Two days after you have removed the old queen just push the new queen in her cage into that doorway and forget all about her. When you next open up the hive pull out the cage. Or, if you requeen by use of ripe cells, just slip the ripe cell down between those center combs.

The one objection I have found with this safety cover is that the queen may be in it when I wish to

find her. The little combs can be manipulated under necessity, but it is a nuisance to do it. It is easier in this case to tip the cover over and drum the queen out upon a regular inner cover laid over the inverted safety cover. This very objection can be made an asset at times. Suppose a colony is bound to swarm and you have a queenless colony in the yard. Just drum the queen up into the queenless one.

Sometimes one colony is short of stores and another has its safety cover full, and plenty below as well. Just exchange safety covers.

REMOVING HONEY ✓

By F. B. Paddock.



Taking off honey by the use of smoker and empty hive body.

When the honey is ripe and ready to remove from the hive, the first problem is to free the super of bees. For many years beekeepers have used the bee escape boards to advantage for this purpose. In some sections each frame of ripe honey is taken from the super and the bees are brushed off so that they will alight in front of the hive.

In a recent visit I found an economical and satisfactory method in the operations of C. S. Engle, of Sioux City, Iowa. An empty, deep super is pieced on top of the colony; over the frames a chip of wood is placed, and on top of this the open smoker is placed. The hive cover is then replaced and the first part of the operation is completed. Mr. Engle uses a battery of three smokers in his operations of removing the ripe honey from the bees. Bark from cottonwood trees is used as smoke material, since the smoke is not disagreeable and there is no tendency for the odor of the smoke to be ab-

sorbed by the honey. With the three smokers, it is possible to drive down the bees as rapidly as one operator will remove the honey. The dense smoke produced by this bark, drives the bees out of the supers very rapidly and the real caution is in leaving the smoker over the colony too long.

In a relatively short time the hive cover is removed and the empty super taken off and as many as three deep supers of honey may be removed, all of which are practically free from bees. By this method it is possible to remove supers rapidly so that they can be taken to the honey house for uncapping. The bees of a colony are not sufficiently overcome from the smoke to be disorganized and subject to robbers. In every way the plan seemed to be thoroughly workable and practical. For the commercial beekeeper or anyone operating an outyard, it does away with the necessity of an extra trip to the yard to place on the bee escape boards.

Ames, Iowa.

MONEY AND SATISFACTION FOR YOU

Save one profit by buying direct from factory. Standard, Jumbo and Modified Dadant Hives; cedar or pine. Write for catalog.

A. E. BURDICK CO.,
Sunnyside, Wash.

WESTERN BEEKEEPERS!

We handle the finest line of bee supplies. Send for our 1924 price list. Our quotations will interest you.

The Colorado Honey Producers' Association, 1424 Market St.,
Denver, Colo.

PORTER



BEE
ESCAPE
SAVES
HONEY
TIME
MONEY

For sale by all dealers.
If no dealer, write factory.

R. & E. C. PORTER, MFRS.
Lewistown, Ill., U. S. A.

(Please mention Am. Bee Journal when writing)

1924 PRICE LIST OF BEES AND QUEENS

A 1-lb. pkg. and unt. queen, delivered...\$3
A 2-lb. pkg. and unt. queen delivered...\$4.50
A 2-fr. Nuclei with unt. queen, delivered \$6
Same as above, with test. queen deliv...\$7

Strictly nothing but pure Italians shipped.
Untested Queens, \$1 each, or 12 for \$10.
In lots of 100, 75c each.
Golden Bees. R. O. COX, Rutledge, Ala.

QUINN'S QUEENS of QUALITY

Have no superior. "There's a reason": are Mendelian bred, good qualities accentuated, GRAY CAUCASIANS, GRAY CARNIOLANS, GRAY LOWER AUSTRIAN queens. Queens imported in 1923, insure extreme vigor. Laws of heredity strictly observed. My queens are produced by selective breeding, in accord with these laws of nature that must be understood and applied before the best can be had, and is found only in Quinn's Quality Queens. A trial will convince YOU of their value, as satisfied patrons testify by repeat orders. Internationally known the world over.

CHAS. W. QUINN

Powhatan, Va.

—QUEENS OF—

Moore's Strain

OF ITALIANS PRODUCE WORKERS

That fill the supers quick
With honey nice and thick

They have won a world-wide reputation for honey-gathering, hardiness, gentleness, etc.

Untested Queens, \$1.00; 6, \$5.00; 12, \$9.00. Select Untested, \$1.25; 6, \$6.00; 12, \$11.00. Safe arrival and satisfaction guaranteed. Circular free.

J. P. MOORE, QUEEN BREEDER
Route 1, Morgan, Kentucky

For Practical Beekeepers— Lewis 4-Way Bee Escape



Postpaid
18¢

Empty your full supers easily and quickly!

IT'S no longer necessary to shake bees in the hot sun or besting uptaking off supers at night. The famous "4-Way" Bee Escape solves the problem. Fully guaranteed. Sample and full instructions, with 52-page 1924 catalog of latest improved quality supplies, sent postpaid to anyone in North America, 18 cents. Write today.

G. B. LEWIS COMPANY

An outstanding force for better Beekeeping since 1874
WATERTOWN, WISCONSIN

Branch Warehouses of the G. B. Lewis Company in charge of our own managers at your service: 328 Broadway, Albany, N. Y.; 408-12th St., Lynchburg, Va.; 132 Webster Ave., Memphis, Tenn.; 415 So. St. Francis St., Wichita, Kansas. Write for name of dealer nearest you.

LEWIS BEEWARE



FORDS run 34 Miles



(on Gallon of Gasoline)
Low Gear Seldom Used

With Air-Friction Carburetor
Guaranteed to reduce gasoline bills on any car one-half to one-third and increase power of motors 30 to 50%.

Makes old cars better than new.
Sent on 30 Day's Trial

Fits any car. Attach yourself. Starts easy in cold weather. No shifting of gears in slow moving traffic. Send make of car and take advantage of our special 30-day trial offer. Agents Wanted.

AIR-FRICTION CARBURETOR CO.
367 R. Raymond Bldg. Dayton, Ohio

**CHEAPER PACKAGE BEES
FOR JUNE,
BUT THE SAME SERVICE**

**JES DALTON
Bordelonville, La.**

SELLING A SMALL SURPLUS

By Major M. Meigs.

Some four years ago I got infected with the desire to study bees for the sport and information and secured a standard ten-frame hive with colony of bees included. This hive prospered and with a good honeyflow produced a fine crop the first year.

As I was not in the game for profit and only hoped for a small amount of honey at the end of the season, I was surprised and embarrassed to find myself with some two hundred pounds of honey on hand at the end of the season. After distributing many pounds as gifts to friends, there was still a surplus to dispose of, and this I concluded to sell to pay part of the expenses I had incurred. What I wanted was comb honey in sections, and I tried various expedients to make my bees store honey in sections. The majority of the sections were half filled or only partly drawn out, making a poor showing compared with the previous year, when I let them work in the large extracting frames. They would fill out the extracting frames and pass up the section boxes. Meanwhile the first colony had swarmed, and, as usual, I could not bear to have them go, so I got another hive and started a new colony. The third year they swarmed again. So at last I found myself possessed of three hives instead of one and with some 500 pounds of honey at the end of the season to dispose of. Not owning an extractor and not caring to purchase one for my small apiary, I determined to market my crop as chunk honey, and to make it marketable I concluded a bargain with my grocer for what I produced. To make it look well, I went to the printer's shop and had some white paper bands printed, 2x17 inches, with the label, "Pure Old-Fashioned Comb Honey," on it, and the name of the grocer. Then I invested 75 cents in a roll of 500 sheets of parchment paper, each sheet measuring 8x11 inches, and a roll of oiled paper costing 10 cents for 15 sheets.

We have a pattern and cut the good combs in four equal pieces with a knife. The sheet of oiled paper is spread out on the table and on it are laid two sheets of parchment paper; then the chunk of honey is laid in the center of the paper and the edges folded over. This done, the band is placed around to keep the paper from unfolding and the package is complete. The cost of this container is 2 cents per package.

For this package I am paid by the pound at comb honey rates, and I get much more honey out of the hive than with section boxes. Last year my three hives paid me more than \$40.00, which more than made up my expenses. The grocer tells me that my honey sells just as readily as section honey and at the same price. He pays me by weight and sells in the same way. The blocks of comb, of course, weigh more than a pound

each, as one super full weighs about 60 pounds.

With section boxes there is the trouble of shaping the boxes and inserting the starter and then cleaning up the box when taken from the hive. Against this, by my method there is the cutting of the comb in pieces and wrapping up the pieces. I think perhaps that there is less work on a pound by my method than by using section boxes.

I notice that your correspondents are very generous in exposing their secrets of the trade, so I make this contribution to the general good, if it is any use. I get 25 cents for my honey, while the extracted brings 10 to 15 cents. My plan looks good to me. It may be of use to some small producer like myself.

Iowa.

Canadians Seek English Market

Honey producers of the Kitchener-Waterloo district in Ontario were preparing shipments of honey for England, according to accounts from Kitchener. It was expected that about twenty carloads would be shipped from Ontario.

During the past year or two there has been a surplus on the Canadian market and producers have had some difficulty in disposing of their stocks. The successful effort to find a new market in England, therefore, is a matter of gratification to the producers. Last year about a dozen carloads were shipped by the Ontario Beekeepers' Co-operative Association, and already there are indications that the demand for the Ontario product will be larger this year than last. A representative of the association who has spent considerable time in the old country in the interests of the association has returned with optimistic reports on business prospects.

Caution Concerning Shipments to Canada

We have just re-shipped an order of live bees to Canada, the first one having been turned back on us from the line because we had failed to comply fully with the new regulations.

As was mentioned in the April Journal, page 191, the importation of live bees in combless packages is prohibited unless accompanied by a statement that the food in the package is free from disease.

This shows how easy it is to forget. Such a mistake is common and human, but costly. If you ship bees to Canada do not forget the new regulations. Read them again.—G. H. C.

"Sweet Clover in Kansas"

This is the title of a new extension bulletin by Willoughby and Wells, of Kansas State College. It discusses the adaptability of sweet clover to Kansas farms to bring back depleted soils, its use for a seed crop, and in crop rotations. Methods of growing are also given. Copies may be secured by addressing the Kansas State Agricultural College, Extension Service, Manhattan, Kansas.

Are You Prepared?

THE EXTRACTING SEASON is here. Have you plenty of comb storage? This is the time when the "make" or the "break" is primarily determined. Some beekeepers have fortified themselves with ample comb storage—many have not. Let us help you in such an emergency with **Supers, Sections, Frames** and "Superior" Foundation by rendering you **quickest service**.

Are You Prepared in the Extracting Plant?

WE ARE HEADQUARTERS for a complete line of extracting equipment

Kunkel and Lewis-Markle Extractors	Honey Pumps
Lewis and Peterson Cappings Melters	Gasoline Stoves
Steam and Plain Uncapping Knives	Steam Generators
Honey Storage Tanks and Faucets	Spring Wheelbarrows
Honey Cans and Pails and Strong Wooden Shipping Cases	
Single or Double Tier Glass Front Comb Honey Shipping Cases	

PLEASE REMEMBER that we are **manufacturers** of bee supplies and that you will get from us the best that is to be had in **QUALITY** and **PROMPT SERVICE** and a consistent **PRICE**.

NOW A FEW WORDS for "SUPERIOR" VEILS. If there is any one time that a good veil is appreciated, it is during extracting season. How much would you pay for a veil made of wire screen and cotton cloth that will really exclude the bees and at the same time permit you to reach your face with your hand—that is really cool and has a sunshade to protect the back of your head and neck—that does not "ride" your shoulders, yet gives ample room for vision? A dollar will buy it. Try it.

SUPERIOR HONEY COMPANY

General Office and Factory at
OGDEN, UTAH

Branches at Idaho Falls, Idaho and Riverside, California

WE MANUFACTURE FOUNDATION

— Our Specialty is —

Working your wax into foundation, for cash or wax in payment. Write us for list of supplies and get our prices on the best Hives. Sections, Frames, etc., made in Wisconsin.

GUS DITTMER COMPANY
AUGUSTA, WISCONSIN

TENNESSEE-BRED QUEENS

Fifty-two Years' Experience in Queen-Rearing
Breed Three-Band Italians Only

	Nov. 1 to June 1			June 1 to July 1			July 1 to Nov. 1		
	1	6	12	1	6	12	1	6	12
Untested.....	\$2 00	\$ 8 50	\$15 00	\$1 50	\$ 7 50	\$13 50	\$1 25	\$ 6 50	\$11 50
Select Untested.....	2 25	9 50	18 00	1 75	9 00	15 00	2 50	7 50	13 50
Tested.....	3 00	16 50	30 00	2 50	12 00	22 00	2 00	10 50	18 50
Select Tested.....	3 50	19 50	35 00	3 00	16 50	30 00	2 75	15 00	21 00

Select tested, for breeding, \$7.50.

The very best queen, tested for breeding, \$15.

Capacity of yard, 6,000. I sell no bees by the pound or nuclei, except with high-priced tested and breeding queens.

Queens for export will be carefully packed in long-distance cages, but safe delivery is not guaranteed.

JOHN M. DAVIS, Spring Hill, Tenn.

BEES BRED FOR HONEY GATHERING QUEENS

Moore-Howe strain from select mothers chosen from 1,000 colonies for honey-gathering, white capping, uniformity of color and gentleness.

First premiums for five years in my section on queens and nuclei.

Prices for April and May

3-frame nucleus with untested Italian queen	\$4.00
1 untested queen	\$1.00; 25 or more 90c each
1 tested queen	\$1.50; 25 or more, \$1.40 each

Best Service. Satisfaction Guaranteed.

JOHN W. CASH, Bogart, Ga.

BEEKEEPERS WE MANUFACTURE DOVETAILED HIVES, HOFFMAN FRAMES, SECTIONS AND SHIPPING CASES

Our hives are made of best grade White Pine, cut accurate and smooth to standard measure. Sections are made of Basswood, polished on both sides. There are no better made.

We carry a complete line of everything in the apiary. Our shipping facilities are as good as can be found anywhere. We want your business. We guarantee prompt and satisfactory service. Price list free.

MARSHFIELD MANUFACTURING COMPANY, Marshfield, Wis.

Honey Prices

"I am enclosing a clipping from the 'Evening Telegram.' Perhaps it is of interest to you. Of course there is no comparison between sugar syrups and honey but, on the other hand, it is outrageous the price that is charged for honey in drug stores, grocery and delicatessen stores. The producer is getting little per pound; it is chiefly the middle man who should be blamed for honey selling so high. To my mind, it is certainly a drawback in boosting the sale of honey, if retail prices are so extortionate."

The above letter is self-explanatory, though our correspondent does not mention the prices which he or she considers as "outrageous." It is true that honey in very small packages is often sold at an unapproachable price; but honey in packages of 5 pounds or more can usually be purchased by the average consumer at a very reasonable price. When we are reminded that high grade candies are sold at prices varying from 40 to 75 cents and more per pound and that there is a large consumption of these sweets, we cannot help thinking that honey needs only to be properly advertised in order to sell readily.

The article from the "Evening Telegram's Pure Food Department" in the clipping sent us, aims to prove that honey is only an ordinary sweet composed mainly of invert sugar, and that its highest value resides in its flavor retained from flowers. This is hardly putting it fairly. The writer of that article might as well advise the public to use margarine, because its chemical constituents are the same as those of butter. Milk, cream, butter, honey, are natural products distilled by nature from the plants of the fields and they are properly fitted by nature for the purpose they serve. Some people would have the world live on chemically prepared food, but the mass of the people, especially the reasoning public, still prefer the natural products of the soil.

It is true that honey is often held at too high a price, while in many instances it is sold at less than its cost of production. It is only by co-operation and clear understanding of our mutual interests that we can come to a rational price, making it attractive to the consumer who realizes its high value to the human system, and profitable to the producer.

Aristotle

"The small bees, it has been already remarked, are more industrious than the large ones, so that their wings become worn at the edges, and their colour black and burnt, but the bright and shiny bees are idle, like women."—(The History of Animals, Book IX, paragraph 22, 380 B. C.)

For shame, Mr. Aristotle; didn't you have a wife to teach you better? Don't you know the large bees are drones, males? The women would have a good chance to turn the tables on us.

HONEY PACKAGES



Genuine Lithographed Pails

Made in four beautiful colors, furnished in the 2½ pound, 5 pound and 10 pound sizes. The only **Rust Proof** honey package on the market today. Your name **PRINTED** (not stenciled or stamped) on the cans without charge, in lots of 100 or more.

Sample 5 pound pail by parcel post for 20c in stamps

We use these pails exclusively in packing DADANT HONEY

Our lithographed pails are enameled throughout, inside, outside, top and bottom. They are really **rust proof**.

Rust Proof

They will not corrode from contact with honey or water and can be used again and again. No other pail on the market offers this wonderful opportunity to advertise your honey continuously.

Comb Honey Cartons

When each section of honey is packed in an individual carton it is kept free from dust and dirt. Honey is always attractive and brings a higher price. New design. Sample 5c.

Plain Pails and Cans

Our friction top cans and pails are shipped in **dust proof** cartons. Cans will reach you clean and in good shape to pack your honey. Our re-shipping cases for 12 5-lb., 24 2½-lb. and 6 10-lb. are specially made and will carry honey safely. The 60-lb.

cans are packed in strong cases with real hand holds. A cheap, light case is the poorest advertisement for your honey.

Glass Jars

Famous Diamond I Jars. Clear glass, beautiful packages. Made by one of the largest glass factories in the world.

Comb Honey Shipping Cases

All wood, glass front, and corrugated.

Send for Complete Price List

**Tell Us What You Need
We Can Save You Money**

Dadant & Sons, Hamilton, Illinois

HONEY

We Buy — We Sell

**DO
YOU GET
OUR
BEEKEEPER'S
BULLETIN**

We want honey all the time to supply our customers everywhere. You will find it profitable to keep us informed as to what you have and send us samples.

ALSO — If you need honey to supply your own trade, let us quote you. We also handle Airco Foundation, honey containers and bee supplies. Foster your business.

—BEES FOR SALE—

THE FOSTER HONEY & MERC. CO.
BOULDER, COLORADO

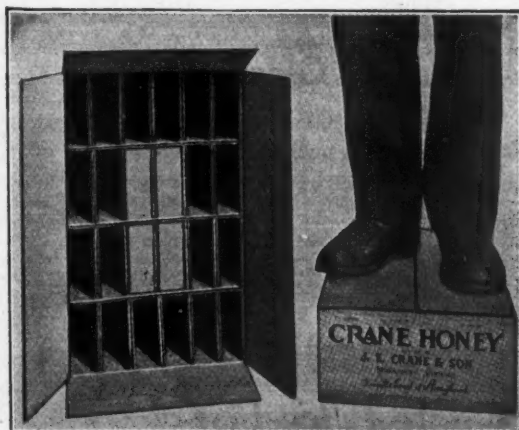


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"Hawkeye" Corrugated Comb Honey Shipping Cases
The up-to-date case for the progressive beekeeper.

For full particulars and samples write

THE IOWA FIBER BOX CO., Keokuk, Iowa

Honey Comes Higher

Honey is far more precious on waffles than maple syrup, according to the scale of prices charged in the Horn and Hardart-Automat cafeterias

in Chicago, Philadelphia, New York, and elsewhere. You drop only three nickels in to get the waffle and maple syrup, but if you prefer honey, another coin is necessary.

Honey Market in France

France produces considerable quantities of honey, but never quite enough for all its needs, and the amount imported each year depends more or less on the quantities produced locally, a rainy or hot summer generally indicating a heavy importation year, says Vice Consul Fletcher, at Havre, in a report to the Department of Commerce. In 1922 honey imported at the port of Havre from the United States accounted for 3 per cent of the total honey imports at that port, while in 1923 the United States furnished 20 per cent of the total imports. A good share of the total importations of honey for the entire republic of France is cleared through this port. From all indications, the United States will be able to furnish a still larger amount of honey in 1924, as purchasers of honey at Havre have found the importations from this country very satisfactory. Haiti is the greatest competitor of the United States in the foreign honey market in France. For the wholesale trade, honey comes packed in sacks or square tin drums, while for the retail trade it must be packed in tin pails or in glass containers. French honey is considerably higher in price than imported honey.

Utah Notes

More than 40 per cent of the output of honey in Utah was shipped to markets outside of the state, according to a report given before members of the Utah State Beekeepers' Association in Salt Lake City April 7. The output was valued at \$300,000.00.

A committee was selected to investigate the smelter smoke problem. If the death of bees is due to smoke from the smelter, a plan to secure reparation may be devised.

Officers were re-elected as follows: J. C. Henager, president; D. H. Hillman, vice-president; F. B. Terriberry, secretary, and the executive committee, which comprises the above officers and R. T. Rhees and Wilford Belliston.

Idaho Honey Shipped to London

The Superior Honey Company, of Idaho Falls, has recently made a car shipment of honey from its Idaho Falls warehouse to London, England. This brings the shipments of this company up to twenty carloads for the year. A car shipment was made earlier in the season to Scotland.

J. H. Redfield, of the honey company, states that it is too early to make much prediction for this season's crop other than that the bees have wintered well.

A Texas County Fair

The Guadalupe County Fair offers 49 premiums on bees and honey. Of these, 34 are for some sort of preparations made with honey, cakes, cookies, candy, fudge, jam, preserves, jelly, etc., all to contain honey as sweetening. That is the way to succeed. Mr. R. J. Willman is chairman of the Apiary Department. Wake up, beekeepers, and do likewise.

THE HARDIE UNCAPPING KNIFE

"Something New and Better than the Ordinary"

Extra long, straight steel blade, double-edged, steam-heated to the point, Intake and return through the handle. Rubber tubing behind and out of the way of uncappers.

Three sizes —

10 1/2-inch, \$4.75;

12-inch, \$5.50;

13 1/2-inch, \$6.00.



Three-gallon Copper Steamer with safety valve, water gauge valve and knife attachment, \$4.40. Steamer with attachments for two knives with shut-off valve, \$6.00. Steam rubber tubing, 15c per foot.

Highly recommended.

RUDDY MANUFACTURING CO., Limited

Beekeepers Supplies—Brantford, Ontario, Canada

RE-QUEEN

in August and September and thus put your colonies in good condition for next year. Conditions were never better with us for producing the best of queens. I am using an exceptionally fine breeding queen and from the favorable comments we are receiving from our customers I believe our queens this year are better than ever.

Prices:

1 to 4, \$1.50 each; 5 to 9, \$1.45 each; 10 to 24, \$1.40 each; 25 to 49, \$1.35 each; 50 to 74, \$1.30 each; 75 to 99, \$1.25 each; 100 or more, \$1.20 each.

Breeding queens, service guaranteed for the season, \$10 each.

A card will bring our literature.

JAY SMITH, VINCENNES, IND.
ROUTE 3

"The World is our Market"

Benninghof Farm Queens

Production, Gentleness, Color

For the first time in 1923 we brought to the attention of the American beekeepers our strain of Italian Bees, which we had been perfecting for the previous 20 years, to secure a race of bees superior to any that could be purchased.

In order that the beekeepers of the country might share in the advantages of these superior bees, we offered for sale to interested parties a limited number of these excellent queens.

The results last season were so highly satisfactory to our customers that we again place before the discriminating beekeeping public our superior queens.

Untested	1	6	12
Tested	\$1.00	\$5.50	\$10.00
	1.50	8.00	15.00

For Fall Requeening at \$85.00 a hundred.

BENNINGHOF FARM Station F **Columbus, Ohio**

PREPARE



for next year's honey crop by requeening your colonies now with our high grade Italian queens. Safe arrival and fullest satisfaction guaranteed.

Sel. unt., 1 to 4, \$1.00; 5 to 9, 90c; 10 or more, 80c

Frank Bornhoffer
Tobasco, Ohio.



MANUFACTURERS OF
"BLOSSOM-SWEET"
AND
BADGER BRAND
5 and 10 lb. Honey Pails.

We specialize in 5 and 10 lb. round pails and 60 lb. square cans. Plain and Lithographed cans of all descriptions.

WILKE-BARRE CAN CO.
ESTABLISHED 1886
WILKE-BARRE, PENNA.

IOWA QUEENS

Italian Queens of SUPERIOR Quality.

My queens are reared in strong cell-building colonies, are mated in big, strong nuclei and are first-class in every way.

1924 Prices
Untested _____ 1, \$1.25; 10 or more, \$1.15
Select untested _____ 1, \$1.60; 10 or more, \$1.50
Tested _____ 1, \$2.00; 10 or more, \$1.90

Will begin shipping about the 1st of June. Queens will be shipped in large long-distance cages, and I personally see that every queen is laying and in good shape when caged.

Pure mating, safe arrival and satisfaction guaranteed or your money back.

Place your order and get service and Quality.

Valley Apiaries, Lamoni, Iowa.

ORIN STANLEY

QUEENS

Reared from a strain of 35 years Careful breeding as honey getters, originally from Moore, Doolittle and Smith stock bred in.

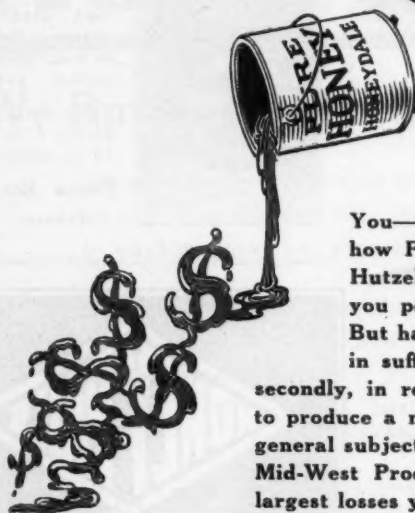
1 to 50 select untested queens, \$1.00 each. 100 queens, \$90.00.

Queens ready by return mail: tested, \$2.50 each.

B. J. COLE CO.,
Paradise Valley, Nevada.

Stop the Leaks

Series 3—How sufficient proper equipment will reduce apiary losses.



To reduce winter losses and insure vigorous spring development

LET US TELL YOU MORE ABOUT THE SIMPLE, BUT IMPORTANT ECONOMY, OF THE MEN WHO ARE USING IT SUCCESSFULLY, AND HOW GREATLY IT PROFITS THEM

To secure a maximum crop

You—Mr. Economical Producer—have been reading and hearing about how Foulbrood can be eliminated and combs saved by using the new Hutzelman solution; how the use of Three-Ply foundation will give you perfect combs, and save you the expense of using inferior ones. But have you ever considered what the use of standard equipment, and in sufficient quantities, will do—first, to insure a full crop of honey; secondly, in reducing the amount of time necessary to manage colonies and to produce a maximum crop, finally in reducing winter losses. Because the general subject is so important, this space is being used to call the attention of Mid-West Producers that by using sufficient proper equipment some of the largest losses yearly sustained by producers can be definitely stopped.

Use the Food Chamber Hive, first advocated by the A. I. Root Co., and now used in thousands of apiaries. Probably no one idea has so contributed to the advancement of safe wintering, as the Food Chamber idea. And it is not only necessary to so winter in order to secure best results, but spring development is greatly aided also. One very successful member of this committee writes: "It is my opinion that the Food Chamber Hive stands first in value of all possible economies and gains in Honey Production."

Have sufficient equipment on hand and ready for use. If you expect a fall flow and all your equipment is now in use, get more at once. Think of it—the honey secured in one full depth body will probably pay for the cost of 5 bodies complete. Honey is valuable—and the few extra pounds you gain each year from each colony because you are prepared for a maximum crop means that much more profit.

LET US TELL YOU HOW LEADING PRODUCERS SECURE LARGE FALL CROPS; WHAT ONE SHOULD HAVE ALONG THE LINE OF STANDARD EQUIPMENT, IN ORDER TO HARVEST A MAXIMUM CROP AT LEAST POSSIBLE EXPENSE.

AND TO REDUCE APIARY LABOR—Use the acknowledged time-saving standardized devices, all of which assist in more economical production. The inner cover is profitable as a bee escape board for both comb and extracted production, and the new Root style insures the strongest possible board. The Root frame wiring board and imbedding device will imbed full sheets of foundation without extra time. Root wood and wire excluders assist in swarm prevention and materially prolong the life of the bees. Smokers are a necessity in successful production, and Root smokers are the strongest and most efficient made today. Root Extractors are of greatest service to larger producers, for they leave least honey in the combs, extract most quickly, and at least expense of time, and enable producers to care for more colonies.

SUCH EQUIPMENT IS NOT EXTRAVAGANCE, BUT A NECESSITY IN PROFITABLE AND ECONOMIC BEEKEEPING.

IMPORTANT NOTICE: This coupon is arranged, in detail, because these matters are of extreme importance, and we want to answer carefully any questions covering these subjects. Begin now to stop expensive leaks due to lack of proper time-saving and labor-saving equipment. Mail the coupon today.

This is the third of a series of ads, recommended and approved by a large list of successful producers, whose names have previously been given.

The A. I. Root Co. of Iowa
Council Bluff, Iowa

The A. I. Root Company of Iowa,
Council Bluffs, Iowa.

Gentlemen:

Please send me details about the Food Chamber Hive, now used, etc.

Also details as to your plans for getting fall honey
How much and what kind of equipment should I have for _____ colonies?

I raise approximately _____ pounds honey,

using _____ frame hives and raise comb (or extracted) (or both).

Name _____

Address _____

Crop and Market Report

Compiled by M. G. Dadant

It would seem, from all the reports gathered and from outside sources consulted, that the honey crop this year will certainly not be any shorter than in 1923, after we have counted in such honey as is harvested during the fall flow in different sections.

It is true that some of the largest honey producing sections are showing a shortage over last year and this is true of such states as Michigan and Iowa. However, as a whole, it would appear that the crop will be possibly in excess of the 1923 crop.

Practically all reporters were unanimous in stating that the prices this year should not be reduced over 1923. In one or two instances in sections of large production where the crop indications are for somewhat more than

last year, there was a tendency to think that the price in a jobbing way might be somewhat reduced.

However, reporters were unanimous in expecting to maintain the 1923 prices, in a retail way, at least.

Texas, having a much larger crop than usual, will possibly reduce their prices somewhat in order to dispose locally of their entire crop without seeking outside markets.

The southeast section seems to predict a very much higher price for their honey than last year, ranging from 1c to 5c per pound.

We are appending below a suggested line-up of prices as has been submitted to us by different reporters and made up into a table.

	5-lb. Retail	Retail 10-lb.	Ton lots 5-gal. White	Carload 5-gal. White	Carload 5-gal. Amber	Comb Fancy Case	Comb Fancy Car lot	Bulk Comb Jobbing
East	\$1.25-\$1.50	\$2.20-\$2.50	12c	11c	-----	\$7.00	-----	-----
Southeast	.90- 1.25	1.75- 2.00	11c	10c	9-10c	5.50-6.00	4.50-5.75	17c
Texas and Southwest	.90- 1.25	1.75- 2.00	10c	9c	7-8 1/2 c	-----	-----	15-17c
Central West	1.15- 1.35	2.00- 2.25	13c	11-12c	8-9 1/2 c	6.50	-----	-----
Plain States	1.00- 1.15	2.00- 2.15	12c	10-11c	8-9 1/2 c	6.00	-----	-----
Inter-mountain	.90- 1.25	1.75- 2.00	10c	9c	7 1/2 -8 1/2 c	5.75	4.50-5.25	-----
Coast	.90- 1.10	1.65- 2.00	10c	8 1/2 -9c	7-8 1/2 c	5.50	4.25-4.75	-----

"Production Bred" Italian Bees and Queens



Now ready. All queen and drone mothers used in breeding are carefully selected. Our queen-rearing methods are strictly up-to-date and we offer you a guaranteed first-class product. Our stock is winning favor as a honey-producing strain wherever it is introduced, both here and abroad. Untested: 1, \$1; 12, \$10; 50, \$40; 100, \$75. Connecticut valley Apiaries (where the good queens come from).

A. E. CRANDALL

BERLIN, CONN.

KNEE DEEP

Mack's Bees are now knee deep in clover and busily engaged in pulling hundreds of the very finest queen cells. These cells will produce queens of the highest quality and they will soon be on their way gaining him an endless number of new customers. Please remember that a trial order will convince you where to place your future orders and that you will be an enthusiastic booster of Mack's Queens and his unequalled Service. Queens sent by return mail or soon thereafter. Postage paid on queens everywhere.

Everything guaranteed but safe introduction.

Three-Band Italians Only.

	1 to 49	50 to 99	100 up
Untested	\$1.00 each	\$.95 each	\$.90 each
Select Untested	1.25 each	1.20 each	1.15 each

Herman McConnell, Robinson, Ill.
The Bee and Honey Man)

You can have cash for your wax and old combs or cappings at the market price, or we allow a little more in exchange for supplies

Write for our terms and prices

"Falcon" Supplies, Queens, Foundation

Booklet, "Simplified Beekeeping for Beginners" free

Write for catalog

W. T. FALCONER MFG. COMPANY, Falconer, (NEAR JAMESTOWN) N. Y., U. S. A.

"Where the BEST Beehives come from"

CLASSIFIED DEPARTMENT

Advertisements in this department will be inserted for 5 cents per word, with no discounts. No classified advertisements accepted for less than 35 cents. Count each initial or number as one word.

Copy for this department must reach us not later than the 15th of each month preceding date of issue. If intended for classified department it should be so stated when advertisement is sent.

As a measure of protection to our readers, we require references of all new advertisers. To save time, please send the name of your bank and other references with your copy.

BEES AND QUEENS

HONEY IN PAIRS—

Atwater, Meridian, Idaho.

QUEENS—To my many former patrons and others: I am not rearing queens this season, but I can supply dandy Italians from two of my finest queens, reared by one of the best queen rearers in Alabama. Every queen guaranteed to give satisfaction. One \$1.00; 12, \$10.00; larger numbers special prices.

J. H. Haughey,
Berrien Springs, Mich.

TRY my Caucasians and be your own judge. Tested, \$1.50. Yard inspected and found no disease of any kind.

Peter Schaffhauser, Havelock, N. Car.

SIMMONS QUEENS give results. This is the month to requeen. One, \$1.50; six, \$7.50; twelve, \$14.00. Fairmount Apiary.

Livingston, N. Y.

WARRANTED pure mated Italian queens by return mail at \$1.00 each, in my special introducing cage that never fails. I have a good supply of fine queens now, so I can fill orders promptly.

Daniel Danielsen, Brush, Colo.

LARGE, PROLIFIC ITALIAN QUEENS—\$1.00 each, \$10.00 per dozen.

J. J. Scott, Crowville, La.

THREE-BAND Italian bees and queens. One selected tested queen, \$1.50; one selected untested queen, \$1.00; six or more, a liberal discount.

J. Allen, Catherine, Ala.

PURE ITALIAN QUEENS by return mail. Reared in natural honey flow, and strictly for business. The best are the cheapest. Let me prove it. July, August and September prices: 1, \$1.00; 6, \$5.00; 12 or more, 75c each. Most northern breeder in California.

J. E. Wing Chico, Calif.

PRICES RIGHT—Pinard's queens and package bees. Quality satisfaction guaranteed. Young, laying, untested queens, \$1.25. Two-pound package bees, \$3.50. For larger lots write. Circular free.

A. J. Pinard, Morgan Hill, Calif.

GOLDEN ITALIAN QUEENS—The big, bright, hustling kind. Satisfied customers all over the United States. Untested, 90c each; 6, \$4.50; 12, \$9.00; 100, \$70.00. Tested, \$1.50.

E. F. Day, Honoraville, Ala.

I HAVE reared over 9,000 queens. I have well marked three-banded stock and am shipping natural bred queens from semi-supersedure cells; \$1.00 each, \$90 per 100. Get some of my extra choice select untested queens to select 1925 breeders from. \$1.50 each; 10, \$14.00. Some 2000 queens here.

W. E. Streetman, Reynolds, Ga.

ITALIAN QUEENS—The quality kind; 3-bands or goldens. One, 80c; six, \$4.50; dozen, \$8.50. Virgins, 30c; tested, \$1.50. Fall requeening will reduce winter loss and insure a crop for next season. Satisfied customers everywhere. Complete satisfaction guaranteed.

Crenshaw County Apiary, Rutledge, Ala.

FOR RENT—40 colonies bees, complete equipment for extracted honey.

H. N. Boley, Hillsboro, Iowa.

PURE ITALIAN QUEENS—Untested, \$1.00; tested, \$1.25; 2-lb. package, \$2.75. Add price of queen wanted. Safe arrival guaranteed after May 10. Write for prices on colonies.

Birdie M. Hartle,
924 Pleasant St., Reynoldsville, Pa.

FOR SALE—Choice bright Italian queens. I have been building up this strain for the last 20 years for vigorous hustlers, good winterers gentleness and fine color. These queens will equal the best on the market. Health certificate goes with queens. Prices: untested queen \$1.25; 12, untested queens, \$12.00; 1 breeder, \$5.00.

Emil W. Gutekunst, Colden, N. Y.

GOLDEN ITALIAN QUEENS, untested, \$1.00; 6 for \$5.40; 12 or more, 80c each. Tested, \$1.50. Select tested, \$2.50. No disease good queens. Safe arrival and satisfaction guaranteed.

D. T. Gaster,
Rt. 2, Randleman, N. Car.

"SHE-SUITS-ME" three-banded Italian queens, untested, \$1.00 each, after June 1; in May, \$2.00 each. If you wish 50 or more, write for price list. Tested queens, \$3.00. Nuclei and packages of highest quality at reasonable prices.

Allen Latham, Norwichtown, Conn.

GOLDEN Italian Queens. Tested queens, \$2 each; untested queens \$1 each; when I have them hybrids 3 for \$1. Satisfaction in all cases.

J. F. Michael,
Rt. 1, Winchester Ind.

CAUCASIAN QUEENS—Untested, \$1.50, tested, \$2.50. Bees, 3 pounds without queen, \$4.50. Shipment provided for with candy made from invert sugar. Bees not shipped on combs. Safe delivery guaranteed.

H. Rauchfuss, Englewood, Colo.

QUEENS—Queens by return mail, 3-banded, large, bright, hustlers. Selected untested, 1, 80c; 12, \$8.00; 100, \$60.00. Selected tested, 1, \$1.25; 12, \$12.00. No disease; ship only the best; good service and satisfaction guaranteed.

W. C. Smith & Co., Calhoun, Ala.

CARNIOLAN QUEENS—Bred from imported mothers of pure Alpine stock. Lockhart's best select breeding strain is their support. No better combination could be arranged. Prices, 1 select untested, \$1.00; 6, 90c each; 12, 80c each, and 25 or more, 75c each. Circular free.

M. G. Ward, Lathrop, Calif.

TRY PETERMAN'S QUEENS—I select out and sell only perfect, large, thrifty layers, killing all others. I figure this pays for repeat orders. They are bred from choice Jay Smith breeders by a thoroughly experienced breeder who is absolutely honest and reliable. Circular free. Reduced prices after June 30: 1, \$1.00; 6, \$5.50; 25, 90c each; 100, 80c each.

H. Peterman, Lathrop, Calif.

IF YOU WANT good, bright Italian queens by return mail, send your order to us; 75c each, \$3.50 per dozen. One-pound package with queen, \$2.75; 2 lbs., with queen, \$4.50. We pay charges.

Graydon Bros., Rt. 4, Greenville, Ala.

BIG, bright Italian queens, 75c each, by return mail. P. B. Skinner, Greenville, Ala.

SEE my display ad., page 390.

Jes Dalton, Bordelonville, La.

FOR SALE—Italian bees and queens. One-pound package with untested queen, \$2.50; 2-lb. package with untested queen, \$3.50. Queens, untested, up to May 15, \$1.00 each.

O. P. Hendrix & Son, West Point, Miss.

GOLDEN ITALIAN QUEENS, producing bees solid yellow to tip. Selected untested, \$1.00; tested, \$2.00. Disease free; safe arrival and satisfaction guaranteed.

H. G. Karns, Victoria, Va.

FOR SALE—Golden Italian queens. Untested, \$1.00; 6 for \$5.50; 12 or more, 80c each; tested, \$1.50; select tested, \$2.50 each. Write for prices on large quantity. No disease of any kind. Safe arrival and satisfaction guaranteed.

Sam Hinshaw, Randleman, N. C.

GOLDEN THREE-BANDED and Carniolan queens. Tested, \$1.00; untested, 75c each. Bees in 1-pound package, \$1.50; 2 pounds, \$2.50; 3 pounds, \$3.25. Safe delivery guaranteed.

C. B. Bankston,
Box 65, Buffalo, Leon Co., Texas.

BRIGHT Three-band Italian Queens—\$1.00 each, 6 or more 75 cents. Two and three-frame nuclei.

Tupelo Apiaries,
J. L. Morgan, Apalachicola, Fla.

BREEDER of fine Italian queens.

C. B. Saunders' Apiaries, Merom, Ind.

FOR SALE—Golden Italian queens. Certificate of State Inspector with each shipment and safe arrival insured. If you haven't seen my prices in May issue of this Journal drop me a card for price list.

Hazel Bonkemeyer,
Rt. 2, Randleman, N. C.

ITALIAN QUEENS of quality, \$1.00 each, \$11.00 for 12.

W. E. Buckner, Mt. Vernon, Ga.

FOR SALE—Three-band Italian queens, untested queens \$1.00 each; 6, \$5.50; 12, \$10.00. Tested queens, \$2.00 each.

Robert B. Spicer, Wharton, N. J.

MERRILL'S QUEENS—\$1.00 each.

R. E. Merrill, Muncy, Pa.

BRIGHT three-banded Italian queens. Prices before July 1, one \$1.25; six, \$6.50; twelve, \$12.00. Prices after July 1, one, \$1.00; six, \$5.00; twelve \$9.00. I guarantee safe arrival, pure mating and satisfaction.

J. F. Diemer, Liberty, Missouri.

HARDY ITALIAN QUEENS—\$1.00 each.

W. G. Lauver, Middletown, Pa.

GOLDEN and three-band queens reared in separate yards; booking orders for 1924. Untested, one, \$1.25; doz., \$11.50. Safe arrival guaranteed in U. S. and Canada.

Tillery Bros., R. 5, Greenville, Ala.

FINEST ITALIAN QUEENS, \$1.00 each.

Wm. R. Stephens, Wingate, Ind.

BIG, bright, northern bred Italian queens. Bred for beauty and honey-gathering qualities. Untested, \$1.00 each; \$11.00 per dozen.

M. P. LeMunyon,
R. F. D. No. 3, Cassopolis, Mich.

BARGAIN SALE—40 colonies of Italian bees with equipment. Write me at What Cheer, Iowa.

Henry Reynolds.

FOR SALE

HONEY IN PAIRS—

Atwater, Meridian, Idaho.

FOR SALE—Property and honey business at Woodburn, Ontario. The village property, consisting of a residence and 5½ acres of land, on which the late William McEvoy of Woodburn, Ontario, carried on his business for the last fifty years, situated in one of the best localities in Ontario, near the City of Hamilton. Interested parties requiring further information as to price and terms, apply to Mercantile Trust Company of Canada, Limited, Hamilton, Ontario.

OTHER business forces me to give up my bees. Will sell at a sacrifice approximately 100 colonies in Modified Dadant hives, in northeast Kansas. Sell all or half. Write Frank Van Haltern, Sta. A, Ames, Iowa.

FOR SALE—180 colonies Italian bees in 10-frame Langstroth hives. Guaranteed disease free. Also supers, extractor, 150 queen excluders, capping melter, wood worker's saw, etc. Write for particulars.

J. R. Whitney, Mendon, Ill.

PACIFIC NORTHWEST—2 2-10 acre home on the Columbia River in the fertile Yakima Valley under irrigation. Thirty colonies of bees with extracting equipment. Home completely furnished. Price \$3,500 includes cows, chickens, equipment. Everything ready for occupation.

Owner, Alf. Hansen, Richland, Wash.

FOR SALE—White and amber extracted honey. Write for prices. State quantity wanted. Dadant & Sons, Hamilton, Illinois.

FOR SALE—Good second-hand 60-lb cans, 2 cans to a case, boxed, at 60c per case, f. o. b. Cincinnati. Terms cash.

C. H. W. Weber & Co., 2163 Central Ave., Cincinnati, Ohio.

FOR SALE—120 acres irrigated unimproved land in Wyoming, \$30 per acre. Will grow 500 tons alfalfa per year. Easy terms. Would accept some bees in 10-frames or larger equipment on this.

Asher P. Dillard, Walthill, Neb.

FOR SALE—About 50 colonies bees, healthy, with complete super and extracting outfit, at a bargain.

C. H. Mundorff, Kirkwood, Ill.

FOR SALE—200 colonies bees in 14-frame hives, with 2 queens to hive; 300 10-frame Standard supers with Dadant's wired foundation. Everything new and painted this spring. This outfit is in a fine location, in fact none better. Reasons for selling on request.
S. F. Lawrence, Amenias, N. Dak.

FOR SALE—28 hives of bees at a bargain, in 10 Dalton frames, at low prices.
Edwin Platt, Witt, Ill.

HONEY AND BEESWAX

HONEY IN PAILS—
Atwater, Meridian, Idaho.

FOR SALE—Extracted honey. White clover. Fine in quality.
Chester E. Keister Orangeville, Ill.

FOR SALE—Clover honey in 60-lb. cans. None finer. Satisfaction guaranteed.
J. F. Moore, Tiffin, Ohio.

FOR SALE—White honey in 60-lb. cans; also Porto Rican in 50-gal. barrels. Samples and prices on request.
A. I. Root Co.,
16-18 Jay St, New York, N. Y.

FOR SALE—Comb and extracted white clover honey. Extracted in 60-lb. cans, 5 and 10-lb. pails. Prices given on request. Sample 15c.
F. W. Summerfield,
Waterville, Ohio.

BEESWAX WANTED—We need large quantities of beeswax and are paying good prices now. Ship to us at Hamilton, Ill., or Keokuk, Iowa, or drop us a card and we will quote f. o. b. here or your own station, as you may desire.
Dadant & Sons, Hamilton, Ill.

FOR SALE—Our own crop white clover and amber fall honey in barrels and cans; also white alfalfa in cans. State quantity wanted and we will quote prices. Samples on request.
Dadant & Sons, Hamilton, Ill.

HONEY FOR SALE in 60-lb. tins. White clover honey crystallized, 13c per pound. L. A. West Indian honey, liquid, 11c per pound.
Hoffman & Hauck, Inc.,
Ozone Park, N. Y.

SUPPLIES

TWO-FRAME COWAN reversible extractor in A1 condition, at \$25.00 f. o. b. destination. Price includes Bingham uncapping knife.
B. T. Bleasdale,
1302 34th St., Des Moines, Iowa.

ONE ROOT 2-frame reversible extractor with 12-inch pockets; new and never uncrated, for \$30.00. One 22-inch uncapping can and one 22-inch honey tank, both new and never used, for \$10.00 each. Two 8-inch Root uncapping knives, never used, for \$1.00 each. Six cypress Jumbo hives, metal cover and inner cover, in the flat, complete, for \$18.00. Six 10-frame cypress hive stands for \$1.25. Sixteen good, used 10-frame wood and wire queen excluders for \$6.00. Ten pounds Airco 3-ply Jumbo foundation for \$7.00. Twenty-five 10-frame shallow extracting supers, empty, nailed and painted three coats, with tin rabbets nailed in, never used, for \$12.50. Will take \$90.00 for the whole outfit. Satisfaction guaranteed.

O. S. Ward, Obion, Tenn.

FOR SALE—Honey extractor, 2-fr., and a power saw table.
Nic. Klein, Hudson, Iowa.

BEE SUPPLIES, carload. Hives, supers, frames, 20 per cent off. Foundation 15 per cent. Sections 10 per cent. Catalog free.
R. Kramke,
Rt. No. 9, Jefferson Barracks, Mo.

FOR SALE—60-lb. cans, used once, 50c per case of two. Charles Meier,
28 Wolcott Ter., Newark, N. J.

FOR SALE—40 cases second hand, empty honey cans in good condition, two cans to case. Boxed at 45c per case.
J. K. Wolosevich,
913 W. 20th St., Chicago Ill.

HAVE YOU any Bee Journals or bee books published previous to 1900 you wish to dispose of? If so send us a list.
American Bee Journal, Hamilton, Ill.

REXFORD'S Push in comb introducing cage, automatic, 35 cents; three, \$1.00. O. S. Rexford, Winsted, Conn. "Gilbertsville, N. Y., June 23, 1924. Mr. O. S. Rexford, Dear Sir: The three introducing cages received. They beat anything yet out. Please send me three more for the \$1.00 bill enclosed. Your, C. F. Bushnell."

SPECIAL PRICES—We are offering at specially low prices some very high grade material in shipping cases, frames, hives and miscellaneous which represent items we no longer carry regularly in stock or which have to be closed out to make room for new stock specially equipped to take Dadant's Wired Foundation. If interested, write for list; we can save you money.
Dadant & Sons, Hamilton, Ill.

CONNECTICUT and Rhode Island headquarters for Root's Beekeepers' supplies.
A. W. Yates, 8 Chapman St., Hartford, Conn.

WESTERN BEEKEEPERS—We can demonstrate that you can save money on buying bee supplies of best quality. Write for our latest price list.
The Colorado Honey Producers' Association,
Denver, Colo.

ATTRACTIVE LOW PRICES—Write us for list of odds and ends, shipping cases, hives, etc., first grade, priced to save you money.
Dadant & Sons, Hamilton, Ill.

GALVANIZED Bee Hive Covers—We can furnish promptly, made to your specifications from galvanized sheets of our own manufacture. Send us your inquiry.
The New Delphos Mfg. Co., Delphos, Ohio.

MISCELLANEOUS

WESTERN HONEY BEE, 428 S. Hewitt St., Los Angeles, Calif., published by Western beekeepers, where commercial honey production is farther advanced than in any other section of the world. \$1.00 per year. Send for sample copy.

BEES AND HONEY—George W. York, editor, Spokane, Wash. Sample free.

GLEANINGS IN BEE CULTURE, published at Medina Ohio, is the most carefully edited bee journal in the world. Its editor-in-chief is Geo. S. Demuth. Its field editor is E. R. Root. Ask for sample copy.

WE HAVE NOW ON HAND, from Paris, a number of copies of the excellent work of Perret-Maisonnette, in French, entitled "L'Apiculture Intensive & L'Elevage des Reines." The first shipment was delayed over two months. The price of this very progressive work is \$1.50 by mail, prepaid.
American Bee Journal, Hamilton, Ill.

THE BEE WORLD—The leading bee journal in Britain, and the only international bee review in existence. It is read, re-read and treasured. Will it not appeal to you? Specimen copy free from the publishers. The Apis Club, Benson, Oxon, England. Send us a postcard today. It is well worth your little trouble.

THE DADANT SYSTEM IN ITALIAN—The "Dadant System of Beekeeping" is now published in Italian, "Il Sistema d'Apicoltura Dadant." Send orders to the American Bee Journal. Price \$1.00.

THE "Archiv fur Bienenkunde" is a valuable scientific publication. "It merits the appreciation of all beekeepers acquainted with the German language," says the Bee World (January, 1923). "The Archiv fur Bienenkunde, now in its fifth volume, is of as high grade as any bee journal which comes from abroad, dealing especially with the scientific aspects of beekeeping," says Gleanings in Bee Culture (February, 1923). Annual subscription, \$1. Specimen copy free. Publisher, Theodor Fisher, Freiburg im Breisgau, Kirchstrasse 31, Germany.

WANTED

HONEY IN PAILS—
Atwater, Meridian, Idaho.

HONEY—State price and send sample.
Paul Thomas, 1157 Third St.,
Milwaukee, Wis.

WANTED—Honey.
A. B. Polly,
R. R. 1, Box 68, Fairmount, Mo.

WANTED—Shipments of old comb and cappings for rendering. We pay the highest cash and trade prices, charging but 5c a pound for wax rendering.
Fred W. Muth Co.,
204 Walnut St., Cincinnati, Ohio.

WANTED—Car or less lots of clover honey; mail sample and quote lowest cash price.
A. W. Smith, Birmingham, Mich.

HONEY—Quote price car loads and less. Send sample.
Hofmann Bros., Produce Co., St. Louis, Mo.

WANTED—An apiary, from 75 to 200 stands, either in Utah or Idaho. Must be free from alfalfa weevil and in good condition. Willing to buy home also.
Herman Lehman, Gen. Delv., Redlands, Cal.

WANT bees and equipment for western Minnesota forty or Red River Valley quarter.
A. M. Wise, Appleton, Minn.

The Quebec International Congress

The beekeepers who live west of Chicago and wish to attend the Quebec meeting, should arrange to leave Chicago at 5:40 p. m. on Saturday, August 30. They will arrive at Quebec at 7 a. m., September 1st. If enough are going, a special sleeper will be arranged for. It will be necessary that those going write to Thos J. Wall, 71 East Jackson Boulevard, Chicago, who will give the rates from their station to Quebec and return. The round trip, Chicago to Quebec, is \$55.80. Sleeper berths extra.

Important Illinois Meeting

There will be a meeting of beekeepers at State Inspector A. L. Kildow's just outside of town on the hard road at Putnam, Ill., on August the 7th. Remember the date.

Director of Agriculture Davidson, who has been an active supporter of foulbrood work in Illinois, will be on the program and Mr. Wooldridge, President of the Illinois State Beekeepers' Association, will have a fist full of good things which he and his committees are arranging for association members and beekeepers in general.

Bring the family. Dinner will be served by the Ladies' Aid Society. There will also be a fine program of general interest to farmers.

Massachusetts Meeting

A meeting of beekeepers will be held at Springfield, Mass., August 27, at which our editor expects to be present, on his way to Quebec. For particulars address Mrs. R. Good-nough, South St., Brookline, Mass. A big meeting is expected.

HONEY WANTED

We are ready at any time of the year to take in small or large lots of extracted honey. Send us a sample and advise quantity you have and the price wanted.

HOFFMAN & HAUCK, OZONE PARK, N. Y.

QUEENS

BERRY SELECT QUALITY

QUEENS

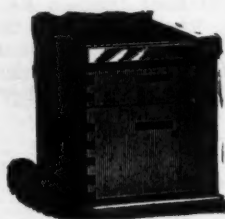
We offer at before the War prices. Attention!

1 to 12 at 60c each; 12 to 50 at 55c each; 50 up, 50c each.

After 28 years of select breeding, our strain of three-banded bees continues to excel for gentleness, disease-resisting qualities and honey production. These queens are reared by Berry, in person, and are truly "Berry Queens." "Nough said."

We guarantee every queen we send out to give entire satisfaction. Otherwise we will cheerfully replace, free of charge, or refund the cash price paid us. Wings of queens we clip, free of charge, for the asking. Descriptive price list on request.

M. C. BERRY & CO., BOX 697, MONTGOMERY, ALABAMA



MR. BEEKEEPER—

We have a large plant especially equipped to manufacture the supplies that you use. We guarantee all materials and workmanship. We ship anywhere. We allow early order discounts and make prompt shipments. *Write for free illustrated catalog today. We pay highest cash prices and trade for beeswax.*

LEAHY MFG. CO., 90 Sixth Street, Higginsville, Missouri
J. W. ROUSE, Mexico, Missouri, Texas Distributors, A. M. HUNT & SONS, Goldthwaite, Texas

HONEY

WANTED

HONEY

We are always in the market for honey, mail fair sized sample of extracted, state how much you have, how packed and your lowest price, delivered Cincinnati or f. o. b. your station. Comb honey, state how graded and how packed.

C. H. W. WEBER & CO., CINCINNATI, OHIO



Root QUALITY QUEENS

KNOWN THE WORLD
OVER AS THE BEST

KNOWN THE WORLD
OVER AS THE BEST

August is the best month to requeen your colonies. By requeening at this time you will be getting your colonies in excellent condition for the fall honey flow and successful wintering. To secure the largest yields and make the most profit from your bees you should requeen with Root "Quality" Queens. They are prolific, vigorous and produce colonies of bees that are gentle, hardy, disease-resistant and excellent honey-gatherers.

QUEEN PRICES

	Quality: 1 to 9	10 to 24	25 to 49	50 to 99	100 up.
Untested	\$1.50 ea.	\$1.35 ea.	\$1.25 ea.	\$1.10 ea.	\$1.00 ea.
Select untested	2.00 ea.	1.80 ea.	1.70 ea.	1.55 ea.	1.45 ea.
Tested	2.50 ea.	2.25 ea.	2.10 ea.	2.00 ea.	1.85 ea.
Select tested	3.00 ea.	2.70 ea.	2.55 ea.	2.40 ea.	2.25 ea.

OUR GUARANTEE ON QUEENS

We guarantee safe arrival of queens sent in mailing cages. We agree to refund the money or replace the queen if the one first sent arrives dead, provided the beekeeper receiving the dead or unfit queen notifies us and returns her at once and in her own shipping cage, properly marked with name and address of sender. No delay in returning the queen can be permitted. This guarantee applies only on queens sent to customers in the United States and Canada.

ROOT QUALITY BEES

The best beekeeping authorities agree with us in the opinion that the shipping of bees in combs containing honey and brood invites the spread of disease. We are now shipping bees only in combless packages, except in carload quantities under special conditions.

	1-9 pkgs.	10-24 pkgs.	25 pkgs up
2-lb. package of bees by express	\$6.00 each.	\$5.50 each.	\$5.00 each.

Add price of queens wanted to package price given above. Large quantity lots quoted on application. These prices are F. O. B. shipping point.

Bees and Queens are not Shipped C. O. D.

THE A. I. ROOT COMPANY WEST SIDE STATION **Medina, Ohio**

HONEY CONTAINERS

5-lb. friction top pails, per reshipping case of 12	\$ 1.10
10-lb. friction top pails, per reshipping case of 6	.90
5-lb. friction top pails, per crate of 100	6.75
5-lb. friction top pails, per crate of 200	13.50
10-lb. friction top pails, per crate of 100	10.00
60-lb. square honey cans, per case of 2 cans	1.25
60-lb. square honey cans, per case of 1 can	.80
60-lb. square honey cans, in bulk, each	.40
16-oz. round glass jars, per reshipping case of 24	1.25
6 1/2-oz. tin top tumblers, per reshipping case of 48	1.60

Prices F. O. B. Boyd, Wis.

Write for prices on comb-honey shipping cases.

Our cases are neat, smooth and strong, made of white winter sawed basswood.

Sections

No. 2 4 1/4 x 4 1/4 x 1 7/8 two beeway sections, per M	\$9.00
--	--------

We have an over-supply of these sections and are offering them at this reduced price for a limited time only.

We carry a full line of Bee Supplies. Write for our free descriptive catalog and price list.

AUGUST LOTZ, COMPANY, Boyd, Wis.

SCOTT QUEENS IN AUGUST

One of our prolific queens introduced this month will provide the best possible insurance against winter loss by building up a large force of young bees. Requeening this fall is also the best way to insure a bumper crop next season. Based on results obtained, SCOTT QUEENS are very economical to use. Many good reports prove they get results.

Three-banded queens during August and September:

One, \$1.25; six, \$7.00; dozen, \$13.00

THE SCOTT APIARIES, LA GRANGE, IND.



Queens



Guaranteed to be as good as can be bought. Reared under favorable conditions by best known methods.

You can't lose. Send us your order.

One untested Italian queen	-----	\$1.00	One tested Italian queen	-----	\$1.25
Ten or more	-----	.75	Ten or more	-----	1.00

THE STOVER APIARIES, MAYHEW, MISS.

Three Banded Italian Bees and Queens by Return Mail

Mr. Beekeeper, if you want to buy as good Bees and Queens as can be produced, I have them, at the right price. I don't sell my queens at 45 cents each, because reliable queens cannot be reared at that price. My queens are reared by men who have had years of experience in the business. They know what good queens are. I don't say I have the best queens in the world, but I do say that I have as good as can be bought, no matter what the price may be. I positively guarantee that each and every queen package will reach you in perfect condition or they will be replaced at once on receipt of dead queens. Satisfaction positively guaranteed. You are the judge and jury. Ask your beekeeping friends about my strain of bees. Health certificate with each shipment.

Pound Packages with Selected Untested Queens:

	PRICES:			
	1	6	12	100
Untested	\$.70	\$4.10	\$8.00	\$60.00
Select Untested	.75	4.50	8.50	65.00
3-lb. Packages, 1 to 12, \$4.50 ea.; 12 or more, \$4.30 ea.	Tested, \$1.50 each up to 12; 12 or more, \$1.40 each.			

THE FARMER APIARIES, Ramer, Alabama

QUEENS CHEAPER

SIXTY-SEVEN AND ONE-HALF CENTS EACH IN HUNDRED LOTS

Time to do that wholesale requeening. "Spring management should be done for the most part in the fall of the preceding year." This truth is coming home to more and more of the extensive and wide-awake beekeepers every year. **GOOD QUEENS ARE REQUISITE FOR GOOD WINTERING.** One of our customers says the following:

Gentlemen: I wish to congratulate you on the hardiness of your bees. I outdoor wintered 210 colonies, and came out with 203 strong ones and three weak ones. Considering that we did not have many warm days, and temperature as low as 18 degrees below zero, I consider it mighty good.

Your bees have proven themselves hardy, prolific and hustlers. And above all, I am glad to say that Jensen's stands for a square deal. If you will look over your past records you will see that I have been a customer of yours for some time, and I hope to remain one.

Yours for success,

HERBERT J. LINK,
La Porte, Indiana.

New prices: Untested, each, 90c. Dozen, \$9.00. Hundred, \$67.50.

We guarantee: Pure mating. Freedom from disease. Safe arrival and satisfaction. We do not guarantee introduction, but will make prompt replacement of any queens returned to us in the original cage, just as received through the mail.

"WE CARE FOR YOUR QUEEN WANTS"

JENSEN'S APIARIES, Crawford, Mississippi

MR. BEEKEEPER!

Your Combs are
Your Greatest Asset
Save Them All

IF THEY ARE INFECTED WITH AMERICAN
FOULBROOD USE

HUTZELMAN'S SOLUTION

Order from your Nearest Dealer

*FOR FULL INFORMATION
WRITE*

J. C. HUTZELMAN
GLENDALE, OHIO



**Pack Your Honey
in Glass**

"DIAMOND I" Fluted Honey Jars make the appetizing qualities of your Honey stand out.

The prospective customer sees the product itself. His eye is not stopped and diverted by the container.

Most Beekeepers' Supply Houses carry "Diamond I" Honey Jars in stock and can supply you promptly with either ½-lb. or 1-lb. Jars, complete with tight-fitting caps, packed in 2-dozen Corrugated Re-shipping cases.

If you are unable to secure these jars from your local distributor, write us direct.

DISTRIBUTORS:

Colorado Honey Producers' Ass'n.,
Denver Colorado.
Dadant & Sons, Hamilton, Ill.
G. B. Lewis Company,
328 Broadway, Albany, New York.
G. B. Lewis Company,
408 Twelfth St., Lynchburg, Virginia.
G. B. Lewis Company,
132 Webster Ave., Memphis, Tenn.
G. B. Lewis Company,
Watertown, Wisconsin.
G. B. Lewis Company,
415 S. St. Francis St., Wichita, Kansas.
Texas Honey Producers' Ass'n.,
San Antonio, Texas.

Illinois Glass Company
ALTON, ILLINOIS



CARNIOLANS

are very gentle, very prolific at all times, build very white combs, are excellent workers, resist diseases as well as any other bees and do not swarm excessively. Intelligently managed. Ask for my free paper, "MERITS OF THE CARNIOLAN BEE."

I can supply Carniolan queens of my own strain; 12 years' selection and breeding, JAN STRGAR CARNIOLA, EUROPE strain. Breeders imported 1923; Italian, C. B. Hamilton strain.

1 Select Untested Queen (either strain)	\$ 1.10
12 Select Untested Queens, (either strain)	12.00
Tested Queens, each	2.25

Queens reared in August during the buckwheat flow are the very finest. August is a good time to replace all inferior or failing queens.

Safe arrival by mail and satisfaction guaranteed.

ALBERT G. HANN
Glen Gardner, New Jersey

TODAY

When planning to requeen, will you take into consideration the value, to you, of the planning we did 32 years ago?

When laying the foundation of our strain THRIFTINESS was not forgotten.

In the 32 years that have passed careful selecting and breeding have improved on the fine qualities of our bees until today we have a strain of THRIFTY bees that is surpassed by none, but superior to many.

We offer you the best of a life's work and study among the bees.

If today you decide to requeen with Forehand's Three-Bands—The Thrifty Kind—you will experience satisfaction in your wintering and in the harvesting of your 1925 honey crop.

Untested Queens: 1, 90c; 12 to 24, 75c; 25 to 99, 70c; 100 up, 60c.

Select Untested: 1, \$1; 12 to 24, 90c; 25 up, 85c.

W. J. FOREHAND & SONS

Fort Deposit, Alabama.

Thagard's Imported Queens from Italy Have Stood the Test

G. A. Bailey, of Geneseo, N. Y.: "My best colony is headed with one of your queens, which stored 12 supers of clover honey."

Albert Peterson, Turtle Lake, Wis.: "My best colony, headed with your queens stored 325 pounds of clover honey. Have used your queens for 4 years; am well pleased with results."

Hurve L. Cress, Jr., Instructor in Apiculture, U. S. Veterans' Bureau: "The queens you shipped the Bureau have met all requirements; they look fine. Those dark imported Italians sure do take my eye."

Untested: 1, \$1.00; 6, \$4.20; 12, \$7.80. Write for quantity prices.

THE V. R. THAGARD CO., Greenville, Alabama

QUEENS

The Russell's hives are crowded,
The Russell's hives are jammed;
The bees that fill the supers are from
The F. M. Russell's strain.

Untested, one, \$1.00; two, \$1.50;
dozen, \$9.00.

F. M. RUSSELL CO., Roxbury, O.

Here's a Selling Honey Package for you—

*It's lithographed in green
and red and gold. Gener-
ous space for your name.
Identifies your brand.*

YOU know the advantages of a brilliantly lithographed honey package—how it stays clean and bright in the store, how it attracts customers, how it protects your brand, how it gives your honey its best selling chance.

This Canco decorated container brings you these sales advantages at very reasonable cost. It's a design that says to everyone who sees it, "Try this fine honey"—and it's a design that makes a lot of people take notice. You ought to see it yourself.



*A silent salesman ready to work
for you all day long. 3 sizes—
2½ lb. cans, 5 and 10 lb. pails.*

Write for sample and details

American Can Company

NEW YORK CHICAGO SAN FRANCISCO PORTLAND ORE.

American Can

CONTAINERS OF TIN PLATE • BLACK IRON • GALVANIZED IRON • FIBRE



Leininger's Strain of Italians

We have been queen breeders for nearly 50 years. In all this time we have tested nearly every strain of Italian bees in the U. S. A. By this careful selection and breeding we have succeeded in producing a strain of bees surpassed by none but superior to many, bees that are gentle and great honey gatherers.

Therefore, if you buy queens from us you may be assured that back of them are nearly 50 years of careful breeding for the production of honey.

As we are located in a red clover belt, it is but natural that our bees should have a long-tongue reach.

We will sell queens from this superior strain as follows:

Untested, 1 to 5, \$1.00 each; 6, \$5.50; 12, \$10.50; 100, \$85.00.

Tested, \$1.50 each; 12, \$15.00; select breeders, \$5.00 to \$10.00 each.

Safe arrival and satisfaction guaranteed.

Fred Leininger & Son
Delphos, Ohio

Citronelle Queens

Bright Italians

50c Each

Untested, 50c each, any number, from 1 to 1,000. Select Untested, 60c each. Tested, \$1.25. We are offering our queens at the above special price in order to get more BEE-KEEPERS to try our stock. SATISFACTION AND PROMPT SERVICE GUARANTEED.

The Citronelle Apiaries
Citronelle, Alabama

QUEENS QUEENS QUEENS

Pure, three-banded leather colored ITALIAN QUEENS. Bred from a mother who has never ISSUED A SWARM. The first to BUILD UP in the spring. Gathered MORE HONEY than any colony in the apiaries, and VERY GENTLE.

A record which is seldom equaled.

	1 to 5	6 to 11	12
Untested	\$1.00 each.	\$.90 each.	\$.80 each
Select untested	1.35 each.	1.20 each.	1.00 each

Safe arrival guaranteed.

A. E. WEGER, DELPHOS, OHIO

Italian Queens

Can also furnish a few Goldens. Untested, \$1.00 each; 6, \$5.50; 12 or more, 90c each. Satisfaction, prompt delivery and safe arrival guaranteed.

RONALD KIRK,
Rt. 1, Box 46, Rockton, Pa.

GOLDEN QUEENS

Untested, 90c each or six for \$4.50; 100 untested queens, \$60; tested queens \$1.50 each. I guarantee safe arrival, satisfaction and ship nothing but the best.

G. A. TAYLOR
Lock Box. Luverne, Ala.

"Laws Pertaining to the Honeybee"

By Colin P. Campbell.

Just off the press. A complete statement of all legal precedents, court decisions, ordinances, and rules by which the keeping of bees may be governed. Also a full copy of all the legal citations and the complete forms of all the laws governing bee diseases and inspection.

Price, \$3.00—Clothbound.

Published by the American Honey Producers' League. For sale by

The American Bee Journal
HAMILTON, ILLINOIS.

or by the American Honey Producers' League, Madison, Wisconsin.

PACKAGE BEES AND QUEENS

Most northern breeder in California. One select untested, \$1.00; 6, \$5.00; 12 or more, 75c each.

J. E. WING, Chico, Calif.

Every year the practical information in each past volume of the American Bee Journal becomes more useful.

We have secured a stock of very durable, laced, marble-board binders in attractive colors. Each binder will hold three volumes of the Journal. Bound in this way your Journals slip into the library shelves like regular books and are thus permanently saved.

These are available to our subscribers for the low price of 75c each.

AMERICAN BEE JOURNAL,
Hamilton, Ill.

Mott's Northern Bred Italian Queens

Select untested, \$1.25 till June 1; \$1.00 each thereafter. Select guaranteed pure mated, \$1.25. Select tested, \$2.00. Virgins, 50c. 172 miles east of Windsor, Ont. Save 48 hours in transit from the far South. Satisfaction and safe arrival guaranteed.

E. E. MOTT,
Glenwood, Michigan.

AMERICAN BEE JOURNAL



ALWAYS MAKE SURE THAT THIS TRADE-MARK IS STAMPED ON EACH PIECE OF

"Tidewater" Cypress
"THE WOOD ETHERAL"

THEN YOU BUY SAFETY (AND SATISFACTION) FIRST, LAST AND 'TWEEN TIMES



"ALL-HEART" GRADE FOR BEEKEEPERS' USE

**Southern
Cypress Manufacturers
Association**



ADDRESS NEAREST OFFICE

**1251 Poydras Building
NEW ORLEANS, LA.**

**1251 Graham Building
JACKSONVILLE, FLA.**

QUEENS

NORDAN'S

**THREE BANDED ITALIAN QUEENS
THREE BANDED ONLY**

QUEENS

Why let your bees go uninsured? Insure them against bee paralysis while you can. My bees are immune to it and I guarantee every queen I put out that none of her bees will have bee paralysis. I will replace any or all queens whose bees show the least signs of it. They are the only known stock today, in the United States, to be entirely immune to bee paralysis.

Prices on Queens the Balance of the Season:

1 to 50 select untested	\$1.00 each; all over 50, 10 cents off
1 to 50 select tested	2.00 each; all over 50, 10 cents off
Select tested queens, for breeders only, \$3.00 each, net.	

They are gentle to handle, and great honey getters. I also ask every beekeeper who has bee paralysis in his bees to call on me for any information about bee paralysis. I charge nothing for this information—it is free to all. Safe arrival to all points in the United States and Canada guaranteed.

M. S. NORDAN, MATHEWS, ALA.

ROOT SERVICE FROM CHICAGO

TWENTY-SEVEN RAILROADS MEAN QUICKEST SERVICE FOR YOU

A. I. ROOT COMPANY OF CHICAGO 224-230 W. HURON ST. CHICAGO, ILL.

Root Extractors

Have No Weak Points

Over fifty years of experience in building extractors has given us a thorough knowledge of all the problems connected with the manufacturing of them. Out of these years of experience has come the multiple reversing extractors and the Buckeye extractors. They are the best and strongest on the market today, because there is not a single weak part. No extractor is stronger than its weakest part. The important features are as follows:



View showing strong construction of pockets furnished with all extractors except the Novice.

THE EXTRACTOR CAN. All seams of the heavy gauge galvanized steel sides are double locked and soldered.

THE COMB POCKETS are rigid, being electrically welded and tinned so that no crevices are left to hold honey.

THE HEEL which supports the pockets is of steel construction throughout and the cross bar at the top is of channel steel, designed to stand the strain.

THE BRAKES are powerful and reliable.

THE GEARS are ruggedly made of semi-steel, which means that they are tough as well as hard.

THE ADJUSTABLE FLOW HONEY GATE is on all Root extractors.

FOURTEEN SIZES OF ROOT EXTRACTORS

"HOW TO SELL HONEY"

When you have your honey extracted you want to sell it

For years we have recognized that the big problem of the beekeeper was the marketing of his honey, and we have given away a large amount of literature on this subject. However, no one plan will work successfully under all conditions, and for that reason we prepared, two years ago, the 32-page booklet entitled "How to Sell Honey." This booklet is not one plan, but many successful plans, and discusses various markets, advertising, packing and grading, shipping, etc.



Send for it—it is free

The A. I. Root Company
MEDINA, OHIO

